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FRAMEWORK FOR MEASURING SUSTAINABLE DEVELOPMENT IN NAMAs

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FRAMEWORK FOR MEASURING SUSTAINABLE DEVELOPMENT IN NAMAs

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For more information on the activities of the NAMA Partnership, see: www.namapartnership.org

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1 Introduction

1.1 OBJECTIVES AND BACKGROUND TO THE RESEARCH PROJECT

The research project 'Measuring sustainable development (SD) in Nationally Appropriate Mitigation Actions (NAMAs)' was initiated by the NAMA Partnership Working Group on Sustainable Development (WG-SD). The aim of the research project is to improve quantitative and qualitative measurement of the SD outcomes of NAMAs, thereby enhancing understanding of how NAMAs can contribute to meeting national development goals.

The UNEP DTU Partnership (UDP), in collaboration with the International Institute for Sustainable Development (IISD), and supported by the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat and the United Nations Development Programme (UNDP), have jointly carried out the research.

The link between NAMAs and SD is crucial for developing countries, and although work is underway on this topic, it is still in its early stages.[1] The Bali Action Plan agreed under the UNFCCC in 2007 agreed that enhanced action on mitigation would include NAMAs by developing country parties in the context of SD. However, the question of how SD impacts are to be integrated into NAMA processes remains open, as do questions regarding which impacts should be assessed and how they should be measured. A substantial body of research and best practices exist regarding how SD considerations have been integrated into the Clean Development Mechanism (CDM), such as the Executive Board CDM SD Tool launched in 2014 and the Gold Standard (GS) certification of SD benefits in mitigation projects, which can inform NAMA SD assessments. The global and flexible approach to the selection of SD criteria and indicators found in these standards are common to all types of mitigation actions, but they may not be directly suited to NAMAs, since globally defined standards may not be in the interests of the implementing host countries. NAMAs are much broader than the project-based CDM, potentially involving policy and sectoral actions, and may require additional or different SD assessment tools.

In this context, the objective of the report is to develop a framework with criteria and indicators for the assessment of the SD impacts of NAMAs, based on a review of the literature on sustainability assessment tools and approaches, and a study of the different stakeholder perspectives among developing country governments, support agencies, the private sector and civil-society organisations.

1.2 UNDERSTANDING THE CONCEPTS OF SUSTAINABLE DEVELOPMENT, SUSTAINABILITY AND CO-BENEFITS IN RELATION TO NAMAS

For the development of the SD assessment framework for NAMAs, it is useful to clarify the understanding of commonly used concepts to describe the relationship between NAMAs

1 The Low Emissions Development Strategies Global Partnership's (LEDS GP) Development Impacts Assessment Working Group, the United Nations Development Programme (UNDP), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), IISD and others have developed guidebooks and methodologies for developing NAMAs, but they differ with respect to the identification of sustainable development impacts and how they should be measured.

and SD. If one approaches SD assessment from the perspective of the CDM, there is a risk of adopting a climate-first approach, where mitigation actions are driven by the price of greenhouse gas (GHG) reductions determined by the carbon market and the SD assessment is conducted on a voluntary basis following vague national and international guidelines (Olsen, 2007; Sterk et al., 2009). For NAMAs, the priorities are reversed. Developing countries emphasize the right to development and see this right as a key principle of SD. NAMAs are seen as a means to move away from business-as-usual high-carbon pathways towards low-carbon and sustainable pathways. SD objectives are widely recognised as a key driver of NAMAs in developing countries (Cerqueira, Davis et al. 2012; LEDS_GP 2012; Tilburg, Röser et al. 2012; GIZ 2013), reflecting the need to adopt a development-first approach to SD assessment of NAMAs. In line with this approach, more appropriate concepts are to assess the SD impacts of NAMAs and sustainability assessment, as the notion of co-benefits has a connotation as secondary to the mitigation actions.

However, the report does not attempt to define SD based on scientific notions of sustainability but rather treats it as a policy concept subject to numerous definitions by sovereign nation states and other stakeholders. The goals and priorities for SD are politically defined, reflecting normative choices for SD particular to a NAMA and the respective country. The paper does not pass judgement on, whether nationally defined SD criteria meet any particular scientific definition of sustainability.

1.3 METHODOLOGICAL APPROACH

The methodology followed in this report combines a literature review of SD assessment tools with stakeholder inputs collected through a series of interviews and workshops. The consultations were used to understand the needs and expectations of NAMA practitioners, while the literature review was conducted to highlight good practice and lessons learnt using different types of tools.

First, we reviewed previously applied tools to assess and measure the SD impacts of diverse efforts such as sectoral strategy development, climate change strategy, product lifecycle assessment and project development, to help identify recommendations for approaches to assess the SD benefits of NAMAs. Key components of the literature review include:

- Review of presently used tools to identify SD contributions to efforts focused on climate change, specifically in the NAMA context, but also looking at CDM, REDD+ and others; this information provides us with a practical indication of how the concept of SD impacts has been operationalized in the particular climate change context.

- Review of tools focused on assessing the SD benefits and impacts of diverse sectoral and cross-sectoral projects and initiatives. We reviewed a set of tools that are often used by the SD community and are relevant for climate change mitigation. These tools are assessed according to a number of criteria, including: focus, suggested use, key elements of the framework, links to national/regional strategies (horizontal integration), level and type of participation, cross-sectoral approach (vertical integration), data collection, costing, and examples of application in the context of climate-related issues.

We use the information from the review in two ways:

1. To provide guidelines about the key steps that were applied to the tested SD tools that might also be applied to the NAMA SD framework

2. To highlight specific aspects of the tools that can be integrated into a tool to assess the SD impacts of NAMAs

Secondly, we conducted a series of stakeholder interviews and consultations to discuss the needs, experiences and expectations of NAMA practitioners and funders regarding NAMA SD tools. The study of stakeholder perspectives was carried out in two parts, and consultations were held during two workshops:

- A survey was circulated to 2056 people in October 2014 targeting NAMA stakeholders across countries and sectors with the aim of identifying experiences, existing approaches and practices for measuring SD in NAMAs and other relevant actions such as CDM and REDD+. The survey consisted of an online questionnaire set up in Survey Monkey. E-mail contacts were obtained from the Low Emission Capacity Building (LECB) programme in 25 countries, the Facilitating Implementation Readiness for Mitigation (FIRM) programme in 9 countries, NAMA Partnership contacts, registration lists from the African and Latin American Carbon Market Forums, and publicly available contacts for UNFCCC NAMA approvers. The response rate was 16.4%, with 338 responses.

- In-depth interviews with a small group of key experts with the aim of understanding concrete examples of the needs, perspectives, priorities and preferences regarding the SD assessment of NAMAs. Eight in-depth interviews were conducted in September/October 2014 via phone or Skype with experts representing two developing-country government perspectives, two NGO perspectives, two private-sector perspectives and two international support agency perspectives.[2] The interviews were semi-structured following an interview guide and were planned to take thirty minutes each. If informants agreed, the interviews were recorded as a back-up to support note-taking. Answers were captured based on notes, which were expanded into a detailed summary using informants' own words as nearly as possible.

- Stakeholder consultations in the form of three workshops with NAMA practitioners were held at the LECB Programme 4th Annual Global Meeting in Brussels on 14-16 October 2014 with about 12-20 participants in two workshop sessions, at the "Information Matters" workshops held in the Philippines on 4-5 November 2014, and during the NAMAcademy, 22 October 2014, in Tisvilde, Denmark, with 8 participants. The representatives in the workshops were mostly from the 25 developing countries participating in the LECB programme, but they also included international agencies such as UNDP, the European Commission, BMU, DfID and non-governmental agencies such as the World Resources Institute and Carbon Market Watch. Notes were taken during the events covering major areas of concern and the suggestions of stakeholders regarding the NAMA SD impact assessment.

The outcomes of the literature review, stakeholder interviews and broad consultations have been integral in developing the suggested criteria for a NAMA SD framework outlined in this report.

Key summaries of the tools assessed are included in Chapter 2. Chapter 3 outlines key findings from stakeholder interviews. Chapter 4 synthesizes the shortcomings and lessons learned from existing NAMAs and broader SD tools before suggesting the criteria and a framework for the assessment of SD impacts of NAMAs.

2 As some informants have requested anonymity, the interview data are presented in aggregate format and not individually.

2 Review of tools and approaches for SD co-benefit assessment relevant to NAMAs

2.1 NAMAS AND SD LINKAGES

By definition, NAMAs aim to identify and implement development actions that are less GHG-intensive compared to conventional practices. In this way, actions prioritized in NAMAs can be seen as clean development actions instead of just efforts to reduce GHGs. To ensure that NAMAs can deliver both adequate GHG reductions and genuine SD, they need to provide transformational impacts. A common understanding is to use transformational change (TC) as synonymous with SD. However, Mersmann, Olsen et al. (2014a, p. 2) argue that it is important to distinguish between the two concepts: 'Sustainable development is a normative concept defining the direction and goal of development. TC is a descriptive concept defining the process and depth of change.' A working definition is proposed to distinguish transformational change from other kinds of change:

"TC through NAMAs is a change:

1. that disrupts established high-carbon pathways, contributes to sustainable development and sustains the impacts of the change (goal dimension),

2. that is triggered by interventions of actors who innovate low carbon development models and actions, connect the innovation to day-to-day practice of economies and societies, and convince other actors to apply the innovation to actively influence the multi-level system to adopt the innovation process (process dimension),

3. that overcomes persistent barriers toward the innovated low carbon development model and/or create new barriers which hinder the transformed system to relapse into the former state (sustains 'low-carbon lock-in')." (Mersmann, Olsen et al., 2014a, p. 3)

To identify and support NAMAs that are genuinely transformational and also nationally appropriate in host countries, it is useful to distinguish between the normative goal dimension of politically defined priorities and the process dimension of (TC) that has no normative connotations and reflects the depth of the changes needed to achieve goals.

Currently, multiple frameworks are relevant for NAMAs and SD linkages. At the international level, Sustainable Development Goals (SDGs) have been developed. The SDGs originated as an outcome of the Rio+20 conference to advance all aspects of SD, while placing SD challenges in the specific context of current and future issues such as poverty eradication, the promotion of sustainable consumption and production, and the protection and management of natural resources. They have been described as the *"overarching objectives of and essential requirements for sustainable development"* (UNGA 2012, paragraph 4.). The

objective is to set universally applicable goals that create targets for 2030 for both developed and developing countries. The Post-2015 and SDG processes were concluded in September 2015, when the new universal Sustainable Development Agenda was launched, with 17 SDGs and 169 targets. Governments, international organizations and the broader civil society are actively participating in this overall process.[3]

At the national level, the Copenhagen and Cancun agreements both encourage the preparation of national Low Emission Development Strategies (LEDS) or Low Carbon Development Strategies (LCDS) as a fundamental step to advance long-term SD and reduce global emissions. As is pointed out in the literature, LEDS/LCDS are not necessarily the same as National Sustainable Development Strategies (NSDS). NSDS aim to define the priorities for promoting SD, and the national and sub-national levels bring together economic, social and environmental priorities. However, to advance SD in developing countries, at least two elements must be present: (a) quality and suitability of the NSDS, and (b) effective implementation and M&E of the NSDS. The quality of the NSDS is usually a manifestation of the quality of the process it underwent and the extent to which integration has been achieved and then followed by a coordinated implementation of actions through different ministries, initiatives and projects. Many of the countries that have developed an NSDS often developed their LCDS independently of the NSDS.

The SDGs applied nationally, as well as most of the NSDS, include references to climate change impacts, but their focus is much broader than just climate change. Regardless, SDGs and NSDS often list targets and activities that could provide mitigation benefits and thus have relevance for NAMAs. Similarly, LCDS are centred on promoting technologies and solutions that provide emissions reductions benefits, but with less focus on social issues such as reducing inequality, marginalization and poverty. Given this close relationship between the strategies, specific benefits of nationally applied SDGs, NSDS to NAMAs and LCDS could be identified, for example, by using tools and approaches to assess the multiple benefits of NAMAs beyond GHG reduction, using participatory practices and coalitions from the NSDS process to guide NAMA development, and using the indicators of SDGs and NSDS to assess the benefits of NAMAs in the context of their contributions to the SD aspects.

2.2 TOOLS AND APPROACHES FOR SD IMPACT ASSESSMENT BY EARLY ACTORS

In order to develop tools to assess NAMA SD impacts, we look for both tools currently used by the climate change community to assess the contribution of climate change mitigation initiatives to development, as well as tools developed by the SD community to assess the contribution of different sectoral initiatives to SD. In terms of the focus on climate change mitigation, these efforts take place under diverse international initiatives such as CDM, JI and more recently REDD+. These initiatives assessed not only the contributions of projects to emissions reductions but also their contributions to improving local and regional development, including social, economic and environmental issues.

3 http://www.unep.org/unea/sdg.asp

There is much to be learned from the approaches employed by CDM. A wealth of experience exists among the 93 developing country governments that have designated National Authorities (DNAs) for the CDM to confirm that projects meet the national criteria for SD (Tewari, 2012). Three approaches have been identified among developing-country governments to assess how projects contribute to SD (Koakutsu et al., 2012): 1): a checklist approach listing national SD criteria and the indicators against which projects are assessed, which is the most widespread approach; 2) a taxation approach, which differentiates between different types of project, such as industrial gas projects, renewable energy and energy efficiency, and which introduces differentiated taxes, as known from China and India; and 3) a certification scheme, which elaborates on the checklist approach to introduce scoring systems known from voluntary standards such as the GS and Climate, Community and Biodiversity standard. National schemes for certification have also started to develop in countries such as Thailand, which has introduced the Crown Standard, as well as in Cambodia, Indonesia and the Philippines. Since in 2012 the Executive Board of the CDM agreed to a voluntary CDM SD tool, there is a significant body of experience to learn from CDM in the direction of developing new methods for measuring SD in NAMAs (Arens et al., 2014; Arens et al., 2015; Olsen et al., 2015). More generally, the CDM is widely recognized as a stepping stone for up-scaled mitigation actions, where elements of the CDM's modalities and procedures, institutional infrastructure at the national and international levels, and capacity within the private sector can serve to inform new mitigation mechanisms such as NAMAs, LCDS and new market mechanisms (EC, 2013; Marcu, 2013; PDF, 2012).

Experience with SD impact assessments of NAMAs is still at an early stage, and no generally accepted method exists, though countries and stakeholders have started to develop their own approaches. To assess the early efforts of NAMA practitioners, we reviewed the NAMA project database of the NAMA Facility. Under *Ambition*, the NAMA Facility uses different types of criteria to describe the potential of the NAMA activities for TC in the context of national emissions reductions plans, SD co-benefits, financial support and mitigation baselines. In terms of SD impacts, NAMA project or proposal documents are expected to consider the SD co-benefits as a central element to ensure country ownership and the long-term sustainability of a NAMA Support Project (NAMA Facility 2014).

We reviewed the NAMA projects' database, including the project documentation listed there, as well as information published in secondary sources linked to these projects. We reviewed 106 projects in all. Based on the collected information, the outcomes indicate that the contributions of NAMAs are strongly assessed in the context of the national emissions reductions plans, with less attention going on SD priorities. Explicit SD priorities are often lacking in the currently published project documents, though the majority of NAMA proposals are in fact existing development projects planned alternatively to realise a low-carbon development pathway. Of the 106 projects examined, only 52 list some contribution to SD. Of these, only 17 list contributions to all three dimensions of SD. An overview of the listed SD impacts and contributions is presented in Table 1 below.

Table 1. Summary of the indicators listed under each dimension of SD in the project documents submitted to NAMA Facility

Social	Economic	Environmental
• Creation of a significant number of new jobs, for example, as listed in the case of Columbia recycling, can create 6-8 times as many jobs as disposal of waste • Decreased energy poverty/ energy security improvements in isolated areas (30 communities in total) • Health improvements due to cleaner air from the replacement of dirty fuels • Improved access to energy • Improve relationship between businesses and communities through improved waste management • Reduced congestion • Reduced accidents • Shorter community times • Reduced average electricity tariffs • Improved heating supply • Improvements in quality of life (health, comfort)	• Reducing dependence on fossil fuels • The reduced costs of energy will therefore benefit mainly the poorer sectors of the population • Energy cost savings for residential, commercial/industrial and outdoor lighting users • Increased competitiveness • Increased tax base, by formalising SMEs that currently do not pay for electricity • Economic savings for the government, due to a reduction in energy subsidies • Increase in the number of green jobs • Positive impact on economic growth and contribution to higher incomes, as well as quality of life. • Savings in raw materials substituted by recycled waste • Encourage further energy policy reform for more rapid uptake of electricity metering and modernisation of energy systems • To lower the financial barriers faced by owners when participating in the forestry business and in carbon markets • Technology transfer (e.g. transfer of electric vehicle and battery technology) • Development of market for different energy generation technologies (solar, charcoal, wind)	• Reductions in local pollution of soil and water, as well as incidence of fire • Reductions in environmental pollutants, noise and noxious odours from project sites • Reductions in emissions of particulate matter that will result from fewer miles traveled by industries to dispose of their waste • Reduced spillage risks from oil transport • Reduced problems with leaks from diesel storage facilities and dumping of waste oil during servicing of diesel generators • Reduced emissions from diesel generator emissions • Biodiversity protection, through the increase of tree coverage • Improved quality of affluent discharged into surface waters; sludge from organics stream to be used as soil improver/ compost and reduced water extraction rates • Improved quality of groundwater • Avoided waste disposal of organic biomass

Beyond focusing on CDM and early NAMA efforts, other relevant tools for SD impact assessments are used in the climate change context. Some of these include the Development Impact Assessment (DIA) Visualization Tool (Cameron et al., 2014), Exploring a Co-benefits Approach used in the Indian Climate Change Policy (Dubash et al., 2013), Valuing the SD Co-Benefits of Climate Change Mitigation Actions (Santucci et al., 2014), The Real Value of Robust Climate Action (Gold Standard, 2014), the CDM SD tool (CDM EB70 2012) and the NAMA SD Evaluation tool (UNDP, 2014). These tools provide relevant insights from already tested tools for describing the SD benefits of mitigation efforts, methodologies for the monetization of social and environmental benefits, as well as guidance on policy development that incorporates these benefits into legislation and actions. They are summarized in Table 2, and a brief overview of each tool is provided below.

Table 2. Overview of NAMA/Mitigation SD co-benefit Assessment Tools

Tool	Description	Data Source	Method of Assessment
Development Impact Assessment (DIA) Visualization Tool	This tool links an action's development impacts with its mitigation potential and cost to provide a comprehensive basis for decision-making and communication, compared to mitigation analysis using marginal abatement cost curves alone	Technology options expert judgment and available data	SD indicators
Indian Climate Change Policy: Exploring a Co-benefits Approach	This paper outlines a methodology for operationalizing a co-benefits approach to climate policy formulation, with a focus on policies related to energy	Technology options stakeholder prioritization	Multi-criteria Analysis
Valuing the SD Co-Benefits of Climate Change Mitigation Actions	This paper provides a methodological framework to assist developing countries to quantify, and as far as possible, monetize the co-benefits of mitigation actions, including recommendations for the development of NAMAs (Gold Standard 2014)	Empirical data for waste projects	Valuation willingness to pay
The Real Value of Robust Climate Action	This paper provides a methodological framework to capture and monetize the environmental and socio-economic net benefits associated with issued Gold Standard (GS) projects to demonstrate the value and impact created.	Categories of CDM projects	Monetary valuation, transfer pricing
CDM SD Tool	This tool aims to assist project participants in describing the SD co-benefits of their CDM activities against established criteria, to enhance transparency, comparability and consistency.	CDM Project Design Document (PDD)	SD indicator - qualitative description
NAMA SD Evaluation Tool	This tool allows users to evaluate the SD performance indicators and SD results achieved over the lifetime of the NAMA. The tool is linked to the proposed SDGs and aims to track the effects of the NAMA on environmental conservation, economic growth, poverty reduction and public welfare.	SDGs and targets	SD indicators, qualitative and quantitative, Nationally Appropriate Improvements (NAI)

Development Impact Assessment (DIA) Visualization Tool

The DIA tool is a decision-making tool that provides a visualization of mitigation impacts, their costs and co-benefit impacts on a single page (LEDS_GP 2012; Cameron et al. 2014). It allows for both quantitative and qualitative inputs and is intended to facilitate informed discussion of the relative benefits of alternative mitigation options. Mitigation costs can be listed quantitatively, or, like the co-benefits, can be assessed using the tool's visual symbols for neutral, negative, neutral/minor impact, positive, or highly positive. It is not prescriptive regarding the co-benefits that are to be considered in the analysis, but it does provide some recommended sector-specific co-benefits developed through application in Kenya and other contexts.

Indian Climate Change Policy: Exploring a Co-benefits Approach

The Indian co-benefits approach is drawn from a paper that details the Indian experience in trying to conduct decision-making rooted in consideration of a mitigation action's co-benefits (Dubash et al. 2013). Those who developed this approach were concerned with the risk of the absence of guidelines or structure leading to ad-hoc and inconsistent decision-making. The tool therefore applies multi-criteria analysis to provide scores and weights for the various co-benefits and to make a selection of mitigation actions based on co-benefits that are both more objective and transparent. The tool was originally created for the energy sector, but could be applied to other sectors as well. The typical dimensions of economic, social and environmental co-benefits are captured in the tool as impacts on growth, inclusion and the local environment, with specific sub-areas identified for each. Users of the tool make assessments of the three types of co-benefit impact, as well as of the carbon mitigation impacts, grading them from 1 to 5. The four areas' scores are then totalled to provide a score for the mitigation action. The actions with the highest scores are then selected for taking forward.

Valuing the SD Co-Benefits of Climate Change Mitigation Actions

This tool is focused on the monetization of co-benefits and was created by South Pole specifically for waste-sector mitigation projects; however, with some adjustments the tool could be applicable in other sectors. The tool seeks to identify areas where there appears to be a willingness to pay for a co-benefit so that this potential co-funding stream can be leveraged (such situations are relatively more common in the waste sector), for example, in a recycling project where different types of waste are separated more, thereby decreasing landfilling costs. The tool walks users through a qualitative assessment of co-benefits to identify areas of significant impact and then analyses this set of impacts to identify areas where there is an identifiable willingness to pay for that type of impact on the part of a stakeholder group so that the benefit can hopefully be monetized. The results of this analysis then serve as an input to NAMA development processes.

The Real Value of Robust Climate Action

The Real Value of Robust Climate Action tool is associated with the Gold Standard (2014), a certification standard used for mitigation projects that perform a rigorous assessment of their mitigation impacts. This particular tool focuses on those of an action's co-benefits that can be more readily quantified and monetized, namely, biodiversity, balance of payments improvements, employment, and livelihood and health impacts. The tool can be applied to a range of sectors, providing a detailed structure and process guidance for the monetization of impacts.

CDM SD Tool

This tool comes from the Clean Development Mechanism (CDM EB70). It is an online tool that walks users through a series of questions on the types of co-benefits that are associated with a proposed mitigation action and asks for qualitative assessments of the scale of their impact

in those cases where a co-benefit impact is found to exist. The tool provides a detailed co-benefit taxonomy, breaking the SD co-benefits down along the three dimensions commonly seen – environmental, economic and social. It then breaks these down further, for example, by dividing the environmental impacts into impacts on air, land, water and natural resources. Then each of the latter areas is broken down further, for example, natural resources may be broken down into the impacts on minerals, plant life, species, diversity, forests, and other. The output of the tool is a Sustainable Development Co-benefit (SDC) report that highlights the SD co-benefits of CDM projects and is made available to the public on the UNFCCC Secretariat website: www.cdmcobenefits.unfccc.int/Pages/SD-Reports.aspx

NAMA SD Evaluation Tool

This spreadsheet-based tool was designed specifically for NAMAs by South Pole and Millennium Development Goals (MDG) Carbon (MDG Carbon and South Pole 2014). It walks users through a high-level assessment of the SD impacts of proposed NAMAs and is unique in that it provides strong linkages with the proposed SDGs. It provides a considerable amount of structure in terms of the identification of indicators for various identified co-benefits, supporting both ex-ante and ex-post assessment, though the selection of specific indicators is left up to the country.

2.3 TOOLS AND APPROACHES FROM THE SD COMMUNITY

In addition to the climate-change tools described above, there are also a number of relevant tools and approaches that focus on SD more broadly. These include Sustainability Assessment of Food and Agriculture systems (SAFA), Pressure Policy Matrix (PPM), Multi-criteria Analyses (MCA), Life Cycle Assessment (LCA) with a focus on SD, Innovative Actions and Strategy Assessment to Promote SD (IASAP), and Sustainability Impact Assessment (SIA). These tools and approaches are summarized in Table 3, and a brief overview of each is provided below.

Table 3. Overview of assessed SD tools and their relevance for NAMAs

Tool	Description	Data Source	Method of Assessment
Sustainability Assessment of Food and Agriculture systems (SAFA)[4]	A holistic global framework for the assessment of sustainability along food and agriculture value chains. SAFA establishes an international reference for assessing trade-offs and synergies between all four dimensions of sustainability. The aim of the tool is to help enterprises, whether companies or small-scale producers, involved in the production, processing, distribution and marketing of goods acquire a clear understanding of the components of sustainability	Technology options, production cycle data, expert judgment and available data	SD indicators covering all aspects of SD and governance
Pressure Policy Matrix (PPM) '	To help policy-makers involved in major initiatives to ensure that the focus of these initiatives are well integrated with long-term SD priorities, as well as relevant sectoral strategies and priorities. The approach provides guidelines for stakeholders' involvement during these processes while trying to suggest feasible means of participation.	Expert consultation, expert judgment and available data	Identified cross-sectorial synergies and trade-offs and specific contributions to SD
Multi-criteria Analyses (MCA)	A structured approach used to determine overall preferences among alternative options, where the options achieve several objectives. Multi-criteria methods were found to be useful for their ability to address problems with conflicting evaluations and to help in dealing with diverse values.	Expert and stakeholder consultation, expert judgment and available data	Prioritized actions to maximize benefits over a set of agree criteria
Life Cycle Assessment (LCA) with focus on SD	An assessment tool and an accompanying process to give a strategic overview of impacts at every step of products' lives. There are LCAs with a focus on SD available which aim to evaluate the full scope of social and ecological sustainability at the product level. We used literature that focused on LCA in the context of SD.	Identified measures to improve contribution of product life-cycle to SD	Measures and indicators to improve and monitor transition towards SD
Innovative actions and strategy assessment to promote SD (IASAP)	This tool provides a criteria set to help guide and inform the review and assessment of strategies to support sustainability (quality, implementation potential, participation) and specific innovative action for sustainability (successful implementation in economic, social, environmental and cross-cutting arenas).	Identified strengthen and weakness of SD strategies	SD indicator: qualitative description with a simple scoring system
Sustainability Impact Assessment (SIA)	To help integrate sustainability into sectoral policy by informing policy-makers of the possible social, environmental and economic consequences of a sector and to make information regarding the potential impacts available to all actors. The aim is to assess how best to define a full package of policies and initiatives to yield the best possible outcome, not just in terms of the specific sectors, but also for all SD components.	Expert and stakeholder consultation, expert judgment and available data	SD indicators, qualitative criteria to identify trade-offs and gaps

4 http://www.fao.org/3/a-i4113e.pdf; http://www.fao.org/3/a-i3957e.pdf

Sustainability Assessment of Food and Agriculture systems (SAFA)

The SAFA tool is a holistic framework that permits the assessment of trade-offs and identification of synergies in decision-making in the agricultural sector, enabling enterprises of all sizes to acquire a clear understanding of the sustainability dimension of their businesses and their decisions. It is directly focused on the development of indicator systems and drills down to a very precise level of detail, therefore being a fairly involved and labour-intensive process, but there are ways to streamline it. It is directly focused on the agriculture sector and has a strong focus on governance.

Pressure Policy Matrix (PPM)

PPM is an approach that helps users identify the issues, impacts or outcomes that are most important to them and to analyse and understand the interactions between them (Spangenberg et al. 2005). In addition, it helps identify areas that should be focused on or monitored, given the interactions between areas of interest. It is ultimately focused on helping users identify and understand trade-offs and to set priorities by developing a more complete picture of what needs to be considered and monitored given the issues, impacts or outcomes of interest.

Multi-Criteria Analyses (MCA)

MCA is a well-established approach that is also employed in the Indian co-benefits approach outlined above. It combines measures and assessments that are not necessarily straightforward to combine or compare by using grades and weights in order to provide an integrated means of making decisions that are reflective of, and incorporate consideration of, a number of key criteria at once (Hajkowicz 2008). It is in essence a decision-making tool for situations in which there are multiple aspects to consider.

Life Cycle Assessment (LCA) with focus on SD

LCA focuses on determining the net impacts of a product or service across its entire life cycle and is therefore a relatively technical approach that is strongly rooted in physical impacts (Ny et al. 2006). Applications that are more directly focused on SD tend to focus on higher level broader social and ecological sustainability outcomes but are still conducted for the product level.

Innovative actions and strategy assessment to promote SD (IASAP)

IASAP is an approach for comparing SD or broader development strategies and involves a broadly scoped analysis of quality, implementation potential and participation, and also considers the implementation of strategies in economic, social, environmental and cross-cutting arenas (Bertelsmann Stiftung 2013).

Sustainability Impact Assessment (SIA)

SIA is an ex-ante assessment tool that is applied in a number of fields. It is strongly focused on outcomes and helps to identify indicators for risk, capacity to change etc. As such, it is therefore very useful for understanding interactions and developing implementation plans for a proposed initiative (Mandelson 2008).

2.4 SUMMARY OF HOW TOOLS AND APPROACHES ARE RELEVANT TO NAMAS AND MEET BEST PRACTICE STANDARDS

The tools that have just been analysed from both the climate mitigation and SD communities provide basic guidance on what could be the potential elements of a framework to assess

NAMA SD co-benefits. Based on the reviewed tools, we can identify the following key aspects: the importance of impact assessment across sectors and issues, well-designed and executed consultation process, specific indicators to identify and measure contributions to all aspects of SD, and transparent assessment of trade-offs in the context of SD between different options (Table 4).

Table 4. Key contributions of the reviewed tools to NAMA SD impact assessments

Key contributions	Climate mitigation-focused tools	SD-focused tools
Assessment of SD impacts across diverse sectors and issues	The DIA tool takes a sector-wide view of mitigation options and considers both SD impacts and mitigation, as does the Indian co-benefits approach, while the others are more focused on individual projects.	The PPM tool provides a simple guideline to place specific activities such as those outlined in NAMAs with broader SD priorities such as SDGs, national SD targets (e.g. poverty reduction, limiting chronic malnutrition, and access to efficient and affordable energy).
Well-designed and executed consultation process	Most tools value or suggest such processes, but the DIA tool and the Indian co-benefits approach in particular deeply incorporates it, since it is populated through consultation and is designed to facilitate a participatory decision-making process.	The IASAP tool provides specific examples of key questions and types of approaches to consultation processes, including the diversity of stakeholder groups, conflict resolution, transparency, and the incorporation of outcomes into key documents.
Set of qualitative indicators to understand key areas of impacts	The CDM SD tool, the Indian co-benefits approach and DIA provide a breakdown of specific qualitative indicators.	The SIA tool provides a set of key qualitative indicators that can be used to describe the types of impacts that can be then quantified to provide a sense of the magnitude of change in each sectors, the capacity to implement, and the benefits over specific time horizons.
Specific quantitative indicators to measure contributions to all aspects of SD	The Real Value of Robust Climate Action and GS tools focus on monetizing co-benefits, while the NAMA SD Evaluation tool provides scope for the use of quantitative indicators, but does not provide concrete guidance.	The SAFA tool provides specific steps to design a quantitative indicator set building on already developed indicators covering all SD aspects, including governance.
Transparent assessment of trade-off in the context of SD between different options	Transparency is prioritized to some degree in all tools, but for tools that use MCA, examination of trade-offs across multiple objectives is a central element.	MCA can be used to compare different options, specific modes of implementation and selected instruments according to agreed values and priorities defined by stakeholders or based on national and international guidelines such as SDGs/NSDS.

3 Stakeholder perspectives on the needs for a NAMA SD Tool

To understand the perspectives of stakeholders regarding the needs for and expectations of measurement of SD in NAMAs, a study was made consisting of a survey and in-depth interviews. The stakeholders targeted are developing country governments, the private sector, civil society and international support agencies involved in NAMA development and related mitigation activities.

Specifically, the study of stakeholder perspectives aims at:

- Examining the early efforts and best practices of NAMA stakeholders to assess SD impacts (survey)
- Clarifying stakeholder perspectives, needs and expectations for assessment of SD in NAMAs (interviews)

This chapter presents the results of the survey and interviews.

3.1 EXPERIENCES WITH MEASURING SD IN NAMAS

Stakeholders from sixty countries responded to the survey, indicating that one or more NAMAs are under development in these countries. A large number of the responses came from Ethiopia and Columbia, reflecting the fact that the Carbon Forums in 2012 and 2014 were hosted by these two countries. A low response rate of 16.4% may indicate that NAMA development is still at an early stage and that few people have hands-on experience of NAMA design and implementation, leading them to skip questions they do not have the information to answer.

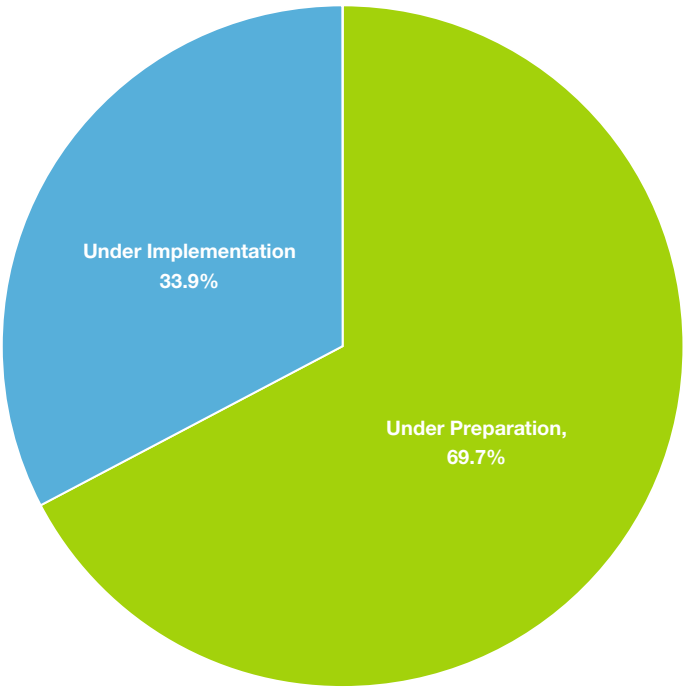
Stakeholders categorized themselves into the following groups: public sector (30%), private sector (28%), civil society (15%), international organization (18%) and other category (9%). The largest groups are public- and private-sector stakeholders (58% in aggregate), but there were good responses from the other groups, namely civil society, support agencies and other organizations.

The survey results fall in two parts: 1) experiences with NAMA development; and 2) perspectives on SD assessment of NAMAs.

3.1.1 Experiences with NAMA development

Figure1 shows the stage reached in NAMA development as either under development or under implementation.

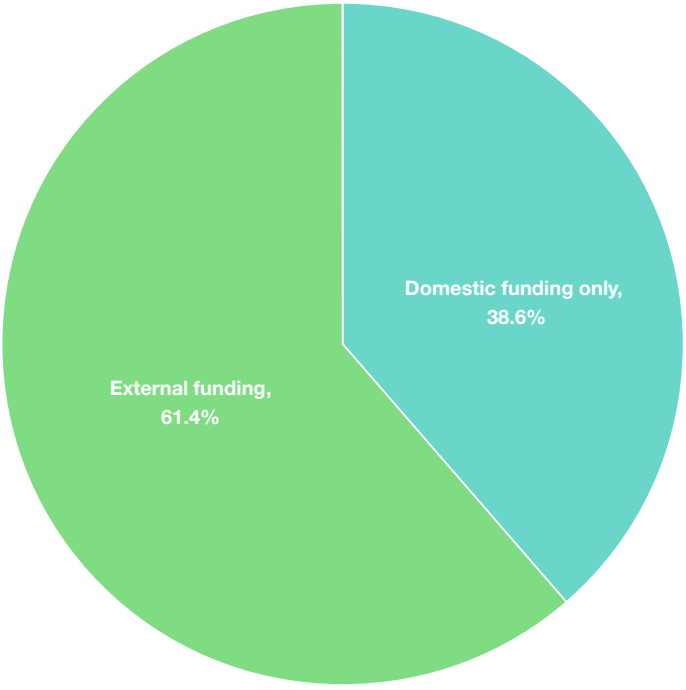
Figure 1. Stage of NAMA development



For most stakeholders (70%) NAMA development is in the preparation phase. For the 30% involved in implementation of NAMAs, a common time period for implementation is 3-5 years, with a few indicating longer periods of ten to twenty years of implementation.

Figure 2 shows the sources of funding for NAMA development by domestic and external sources respectively.

Figure 2. Sources of funding for NAMA development



Most stakeholders (62%) therefore rely on external funding to develop and implement their NAMA activities, with 38% relying on domestic funding only.

By sectoral coverage, most NAMAs are being developed in the following sectors: energy efficiency (21%), multi-sector (19%), agriculture (16%), forests and renewable energy (11% each) and transport (10%). Other sectors covered are cement, fossil fuel switching, solar, waste and wind.

NAMAs contribute to SD goals at the national level (94%), sectoral level (86%) and sub-sector/local levels (70%). However, the criteria for SD have only been defined in 50% of the NAMAs under development.

The key needs and reasons to measure the SD co-benefits of NAMAs are identified in Table 5.

Table 5. Needs and reasons for measuring SD co-benefits in NAMAs by stakeholder group

Public sector	Private sector	Civil society	International organisation
• To sensitize policy-makers • To monitor environmental, social and economic impacts • To inform policy and legal framework • To gauge project viability • To develop monitoring, reporting and verification (MRV) systems for better management • To enable comparison and prioritisation of NAMAs	• To value SD benefits to NAMA donors • To motivate stakeholders • To identify willingness to pay for social assets • For coherence in NAMA financing • To increase government support • To enhance participation of private sector	• To inform decision-making • To facilitate financing of NAMAs • For clear measures and management • To generate knowledge • To enhance collaboration • To strengthen institutional framework	• To enable cross-country comparison of SD benefits • To monitor NAMA sustainability • To demonstrate validity of a NAMA • To prioritise NAMA projects • Know the pros and cons of NAMA activities for poverty alleviation • To integrate view of social, economic and environmental benefits

For monitoring, reporting and verification (MRV) of NAMA SD co-benefits, the majority of stakeholders (68%) respond that links to monitoring and evaluation (M&E) systems at the national and/or sector levels exist or will be developed. Examples of existing M&E systems being used by countries include the following:

- The project or programme results framework should align with the goal and impact of the Adaptation Fund and should include at least one of the core outcome indicators from the AF's results framework.

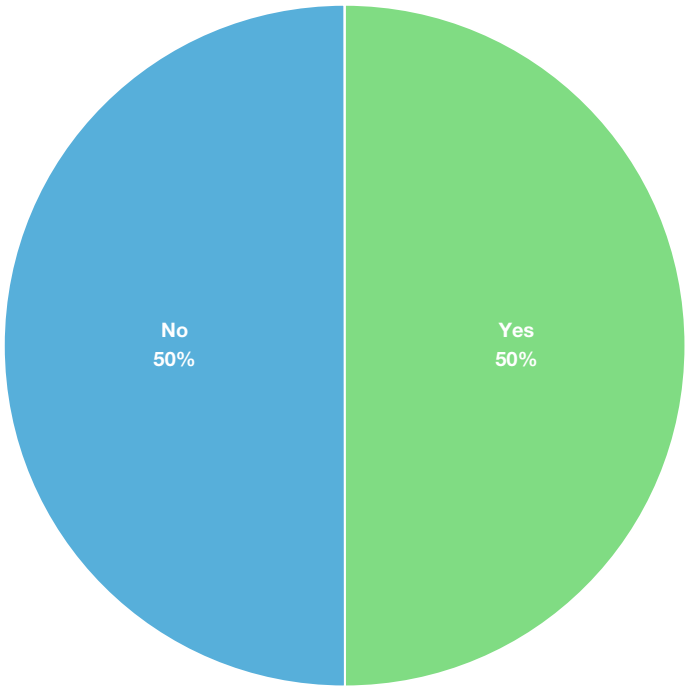
- The Ministry of Environment has developed an M&E body on all climate change project implementation at the national level

- Monitoring of impacts related to self-supply energy systems based on renewable energy in Chile
- Relevant M&E systems from CDM projects: user data or surveys based on existing projects
- Forest Resources Assessment (Forests Inventory)
- Linking environmental monitoring to the social development index
- The NAMA will incorporate a comprehensive M&E of implementation and of received financial support, indicators for continuous improvement, and a proposed M&E toolkit to assess the TC of the NAMA
- ISO 14064
- Colombia is implementing its Low Carbon Development Strategy. One of the activities is to build a MRV System. Today, we have conceptualized this system, but it is not a real system right now
- We hope to link MRV of NAMAs with our national M&E system (COGNOS)

3.1.2 Perspectives on methods for SD assessment of NAMAs

Figure 3 shows the share of stakeholders that have defined SD criteria for NAMAs.

Figure 3. Definition of SD criteria

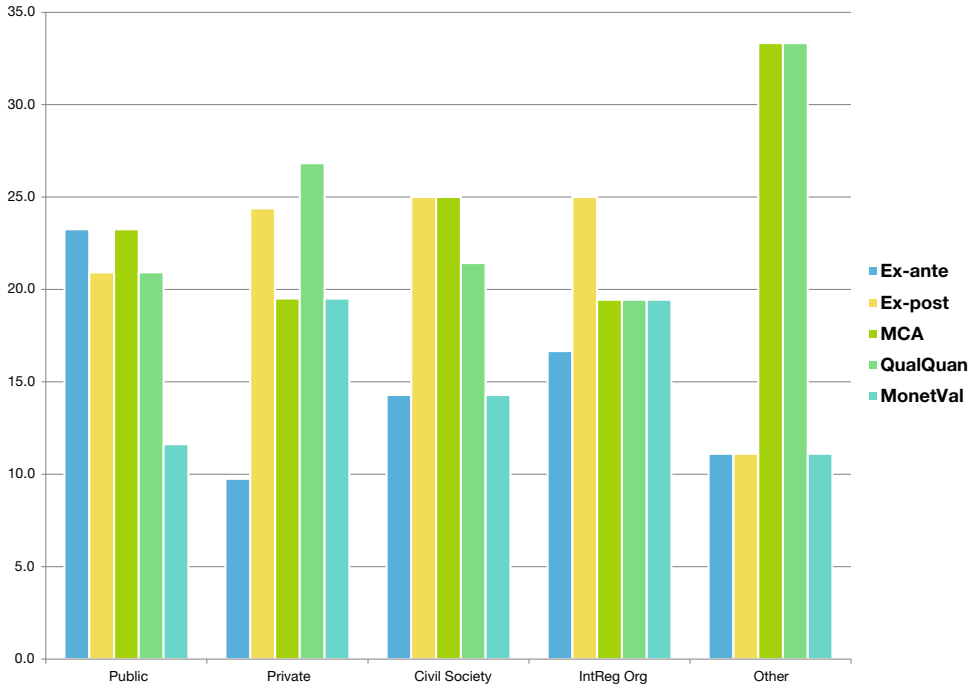


Half of the stakeholders answered that SD criteria have been defined for the NAMA, which means the other half have not considered the impacts of climate mitigation actions for SD in a structured way.

Across all groups of stakeholders, the majority (58%) believe that methods of SD assessment should rely on a mix of qualitative and quantitative SD indicators. The majority of stakeholders also favour MCA for the involvement of relevant stakeholders (56%) and ex-post assessments during NAMA implementation (58%). A smaller share of stakeholders (40%) believes that ex-ante assessment during the design stage of NAMAs and quantification or valuation of co-benefits are needed as part of the SD assessment of NAMAs.

Broken down into stakeholder categories, differences in perspectives emerge particularly between public and private stakeholders, as shown in Figure 4 below. Public-sector stakeholders find ex-ante assessment to be important (23%) and the monetization or valuation of co-benefits to be less important (11.6%). For private-sector stakeholders the perspective is reversed, with less importance being attached to ex-ante assessment (9.8%) and more importance to the monetization and valuation of co-benefits (19.5%). For the other stakeholders there is a high level of agreement on the importance of using a mix of qualitative and quantitative methods and indicators for assessment.

Figure 4. Stakeholder perspectives on approaches to assessment



Regarding sources of data for MRV of co-benefits, qualitative and quantitative sources will be used by most stakeholders (70-100%), with the monetization and valuation of co-benefits not being considered important by public-sector and civil-society stakeholders (respectively 26% & 20%), whereas private-sector and international agencies find them more important (respectively 50% & 70%).

3.2 STAKEHOLDER PERSPECTIVES ON SD ASSESSMENT OF NAMAS

While early experiences exist on SD assessment of NAMAs, as described in the survey results, there is as yet no solid method or 'best practice' regarding how SD in NAMAs can be assessed. There is, however, a broad range of stakeholder expectations, needs and preferences for how sustainability assessment can add value to NAMA development and serve the interests of stakeholders. For a deeper understanding of stakeholder perspectives, two representatives were selected from each of four categories, as shown in Table 6 below.

Table 6. Overview of interviews

Stakeholder perspective	Country	Organisation	Position
Developing country government	Chile	Ministry of the Environment & MAPS Programme	Former Head of the Climate Change Office in the Ministry of Environment. Now MAPS staff
	Tunisia	National Agency for Energy Conservation	Senior Executive
Private sector	Belgium/ Rwanda	Delagua	Climate Partnership Manager
	-	South Pole	Director of Strategy
Civil society	Belgium	Carbon Market Watch	Director
	India	Gold Standard	Technical Director for Energy and Head of Standard Development
International support agency	USA	Inter-American Development Bank (IADB)	Lead Officer, financial institutions and capital markets
	Germany/Mexico	Die Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Technical Advisor

3.2.1 Comparison of commonalities and differences in stakeholder perspectives

Based on detailed interview summaries, the commonalities and differences in stakeholder perspectives are compared against the topics of questions asked, as presented in Table 7.

Table 7. Stakeholder perspectives on the needs and expectations for a NAMA SD framework

	Public sector	Private sector	Civil society	International agency
Co-benefits are a misleading concept	Yes	Yes	Yes	Yes
Which concept is most appropriate to measure SD in NAMAs?	SD indicators	SD is a 'social good'	SD indicators	Sustainability
The need for measuring SD in NAMAs	For countries to track that SD goals are achieved	Introduce monetization to give SD benefits a value	Measure negative impacts	A simple system to track SD indicators
To whom does it matter?	Inform higher authorities	Everyone across all levels	At all levels	Governments, also donor governments accountable to taxpayers
Approach to SD assessment	A development first approach	Establish a willingness to pay for the social goods	A common framework with SD criteria and guidelines	Alignment with National Development Plans
Ex-ante assessment is most important	Yes	No	Yes	Yes
Ex-post assessment is most important	No	Yes	Yes	Yes
Key methods of assessment	A mix of qualitative and quantitative methods	Quantification and monetization, MRV of SD impacts	Public participation as a means to good design and impact assessment and as a goal in itself	SD indicators need different methods of assessment (survey, metering, accounts etc.)
Certification of SD impacts	Standards determined at national level; minimum requirements and guidance at international level	Useful to raise additional finance for SD/social goods	Certification of SD impacts could raise additional finance, but NAMAs are not good for crediting	International standards in a global carbon market. National standards in national markets
MRV system for SD impacts	Weak M&E systems exist and data is lacking. It is possible to MRV qualitatively but difficult to quantify	Money to do MRV and reward results are needed but are currently lacking	Awareness, willingness and data to do good MRV of SD impacts is needed	Government capacity should be a pillar of SD. Existing programs in NAMA plans already have an M&E system to build on
Independent review is needed	Yes	Yes	Yes	Yes
Challenges	To go from qualitative to quantitative measurement, more data and statistics are needed.	To establish government support for quantification	Ensuring public participation: no guidance exists on when, how and at what level public participation should take place	MRV to be regarded as an opportunity, not a burden

The key commonalities and differences between stakeholder perspectives are identified below.

3.2.2 Commonalities

'Co-benefits' is a misleading concept in measuring SD in NAMAs

In spite of 'co-benefits' being the most widely used concept in the climate community in talking about the development benefits of NAMAs, most stakeholders agree that it is misleading for several reasons. First, the notion of '*benefits*' implies that negative impacts are overlooked, as in the example of the voluntary CDM SD tool. Members of the Executive Board argued that there was no mandate for the Board to assess negative impacts such as introducing 'no-harm' safeguards, as the Conference of the Parties, serving as the meeting of the Parties to the Kyoto Protocol (CMP), had requested the Board to only 'highlight the co-benefits' of CDM projects. Second, '*co*'-benefits has the connotation that the SD benefits are secondary to GHG emissions reductions. This is also misleading, as most stakeholders agree that development goals rather than climate mitigation goals have priority for developing countries. Development priorities are a driver of mitigation actions rather than the side benefits. A more appropriate concept is to measure the 'SD impacts' of NAMAs.

A framework with indicators for SD is needed to measure the contribution of NAMAs to national goals

Agreement exists that measuring SD is important to all stakeholders, particularly to governments in order to determine that national SD goals are being achieved and to justify public support for the use of taxpayers' money, including money from donor countries. Key differences exist, however, as to what information matters to whom and to what extent a framework needs to be globally standardized rather than being tailored to national needs.

Stakeholder participation and independent review are key elements of a framework

Involvement of key stakeholders at government level, beneficiaries and affected communities is a key element that all stakeholders agree is important. Emphasis differs as to whether public participation is a goal in itself or a means to ensure a better design and more SD impacts of mitigation actions. Agreement also exists that independent review of the SD impacts of NAMAs is necessary to develop a credible and rigorous approach to ensure that SD impacts are achieved.

Domestic MRV systems shall track SD impacts of NAMAs

Some data exist at the national and sector levels to track the progress of existing policies, but additional data is needed, including qualitative and quantitative indicators. Across stakeholders, agreement exists that both the ex-ante and ex-post assessment of SD impacts are important. Emphasis differs, however, with ex-ante assessments being most important for public-sector decision-making and ex-post assessment being most important in attracting results-based funding sources.

Certification of SD impacts is a good idea

Most stakeholders find that certification of SD impacts can add value and raise additional finance for mitigation actions. The GS for CDM projects is an example of how certification can assist in raising additional finance for Certified Emission Reductions (CERs) when SD impacts are documented and verified. Different perspectives exist regarding whether certification schemes are best developed at the national or international level, depending on the scope of transfers within national and international systems respectively.

3.2.3 Differences

Scope of the SD assessment framework

One point of divergence in perspectives is the extent to which the framework should be nationally defined rather than globally defined and managed by UNFCCC institutions that set common standards, criteria and procedures applicable across all countries and sectors. Developing country government representatives emphasize the need to reflect national development priorities in SD indicators and procedural guidance: in their view, international standards should be kept to a minimum and respect national sovereignty. Civil-society perspectives, conversely, highlight the need for a global framework to ensure a high level of common standards and comparability across countries.

Ex-ante versus ex-post assessment

Developing-country governments and international support agencies emphasize ex-ante assessment to ensure that NAMAs are aligned with development priorities, that design incorporates SD goals and impacts, and that investments are directed to achieving the most SD impacts. Private-sector perspectives highlight the need for robust, ex-post MRV systems to ensure the credibility needed to attract results-based finance for mitigation actions. Civil society, on the other hand, is concerned with procedural aspects such as stakeholder involvement and safeguards against negative impacts that are relevant across ex-ante and ex-post assessments.

Quantification and monetization of SD benefits matter most to the private sector

The need for methods and data to quantify and monetize the value of SD benefits is emphasized in private-sector perspectives. Establishing a value for the social goods and benefits of SD associated with mitigation actions means that the willingness to pay for these goods can be identified and additional sources of finance for mitigation leveraged from public or private sources. Host-country governments and international support agencies are interested in the information, but are concerned about the extra costs, the difficulties in obtaining quantitative data and the human and institutional capacity required to set up and run domestic MRV systems.

Safeguards and the involvement of stakeholders matters most to civil society

To ensure that no harm is done and to avoid the negative impacts of mitigation actions, safeguards are needed to protect communities and affected stakeholders. Civil-society perspectives highlight the need for global best practice standards and public participation guidelines. While host-country governments agree about the importance of stakeholder involvement, the issue of global standards for public participation and safeguards is controversial, as governments resist governance at the global level that may challenge their national sovereignty. Private-sector and international support agencies, by contrast, have an interest in minimizing the risks to investments and support, but are less concerned whether safeguards and stakeholder involvement procedures are defined at the national or international levels as long as they are effective.

3.3 SUMMARY OF THE KEY STAKEHOLDER NEEDS AND EXPECTATIONS FOR A NAMA SD TOOL

The survey of SD assessment practices for NAMAs in developing countries shows that NAMA development is still at the preparation stage for more than two thirds of stakeholders and that SD criteria exist in only half of the NAMAs under development. The key needs for

strengthened SD assessment practices are identified as a mechanism for better policy, legal and institutional coordination, including incentives to involve the private sector in improving the achievement of SD goals at the national, sectoral and sub-sector levels. Analysis of eight in-depth interviews provides an understanding of the diversity of rationales, needs and expectations for SD assessment of NAMAs among stakeholder groups. The following key needs and expectations emerged from the study of stakeholder perspectives:

- A common framework with SD indicators is needed to measure the contribution of NAMAs to the goals for SD at the national and other levels
- Stakeholder participation is a key element of an SD framework throughout the design and implementation of NAMAs
- Safeguards against negative impacts for the environment and local communities are emphasized by civil-society organisations, along with global standards for stakeholder involvement procedures
- The monetization of SD impacts is a key element of a framework to incentivise private-sector involvement and to leverage additional finance for mitigation activities
- Quantification of SD impacts for a robust MRV framework is emphasized by private-sector and support agencies, whereas public-sector representatives are concerned about the extra costs and availability of data
- Independent review of SD impacts is necessary for a credible and robust approach to ensure that the expected SD goals are achieved
- Certification of SD impacts can add value and raise additional finance for mitigation actions

Overall, a consensus exists that integrated ex-ante and ex-post assessment should be part of a framework including common SD criteria and indicators to measure the impacts of NAMAs and their contribution to SD goals. Stakeholder participation and independent review are key elements of such a framework, while certification of SD impacts can add value and raise additional finance for mitigation actions. Differences in needs and expectations exist, particularly 1) whether a framework should be determined nationally, or whether common standards should be defined globally; 2) the extent to which the quantification and monetization of SD impacts are feasible and desirable; and 3) how to ensure that safeguards against negative impacts are in place and enforced.

Given this mapping of stakeholder practices, needs and priorities for SD assessment of NAMAs, the challenge ahead is to strike a balance between what is needed and what is desirable from different points of view. Knowledge of existing practices for SD assessment and the understanding of commonalities and differences in perspectives will inform choices regarding the design features and elements of a NAMA SD assessment framework.

4 Framework with criteria for measuring SD in NAMAs

This section builds on the assessment of existing tools and the needs and expectations that emerged from the stakeholder interviews to develop a framework for assessing the SD impacts of NAMAs. To do so, we first assess which elements and processes found in existing tools might be useful in meeting the needs and expectations of NAMA practitioners.

4.1 BUILDING A NAMA SD FRAMEWORK FROM THE ELEMENTS AND PROCESSES OF EXISTING TOOLS

The climate change and SD tools identified and discussed above were scrutinized to assess their usefulness in responding to the needs and expectations of NAMA practitioners identified in the survey and interviews. The climate change tools are also SD assessment tools, but the SD tools are not designed for the assessment of climate mitigation activities. In this analysis, we look at whether there is a broad alignment with the expectations expressed and highlight the elements and processes that could be borrowed from existing tools. Table 8 presents the results of this analysis.

Table 8. Analysis of present SD and climate change tools and approaches in the light of identified stakeholder needs and expectations

Stakeholder needs and expectations	Useful Climate Change SD Tools	Strengths and weaknesses	Useful SD Tools	Strengths and weaknesses
Integrated assessment of NAMA SD impacts: A framework shall include ex-ante (design stage) and ex-post assessment (implementation stage) of SD impacts of NAMAs in an integrated manner that includes substantive (SD criteria and indicators) and procedural elements of sustainability assessment (stakeholder participation and safeguards).		There are no existing CC SD tools which include both an ex-ante and an ex-post assessment. The CDM SD Tool focuses on ex-ante assessment, while the NAMA SD Tool focuses on ex-post assessment, and none of them incorporates procedural elements.	✓ IASAP ✓ SIA ✓ PPM	The tools aim to link high-level objectives with local actions and projects and ensure alignment between the goals and their manifestation at the different levels.
SD criteria and indicators: A common framework with SD indicators is needed to measure NAMAs contribution to goals for SD at the national level and other levels.	✓ The Real Value of Robust Climate Action ✓ CDM SD Tool ✓ NAMA SD Evaluation Tool	A number of the tools provide a framework for the types of SD impacts to be considered; some, like the Indian approach or GS, may be too narrowly defined for some contexts, while others, like the CDM and NAMA SD tools. may be too specific to projects or too high level, focusing on global goals rather than national goals for SD.	✓ SAFA ✓ LCA	The tools provide a step-by-step approach to select indicators to measure key activities in the context of SD priorities as well as issues such as governance, transparency and participation as key aspects

Alignment with SD goals: The concept of 'SD impacts' is more appropriate than 'co-benefits' for a development-first approach, where SD impacts are assessed for their contribution to broader SD goals at the national level and other levels	✓ NAMA SD Evaluation Tool ✓ Indian Climate Change Policy: Exploring a Co-benefits Approach	While most tools implicitly require or assume that mitigation options are linked with national level goals, few explicitly incorporate this except for the Indian co-benefits approach. The NAMA SD tool is linked to SDGs, but does not take national SD goals into consideration.	✓ IASAP ✓ PPM	The tools look at specific linkages between goals at the national/higher level and project level priorities. They also provide guidance on how to assess linkages to other sectoral priorities beyond the scope of the project
Stakeholder participation: Participation is a key element of a SD framework throughout the design and implementation of NAMAs	✓ Development Impact Assessment (DIA) Visualization Tool	The DIA tool sets the highest standard in terms of stakeholder participation. Not only do stakeholders drive the assessment of co-benefits (this is seen in other tools as well), they are also expected to participate in and help drive the prioritization process.	✓ IASAP ✓ SAFA	The tools look at the type of participation and key mechanisms to ensure good participation, and they also provide guidance on selecting indicators to measure the quality of participation
Safeguards: The importance of safeguards against negative impacts for the environment and local communities are emphasized by civil-society organizations and financing institutions to minimize the risks to investments	✓ Draft CDM SD Tool	Safeguards were proposed in the draft CDM SD Tool, but were then removed to simplify the tool		
Quantification: The quantification of SD impacts using a robust MRV framework is emphasized by private-sector and support agencies for results-based finance. Public-sector representatives are concerned about the extra costs and availability of data	✓ Valuing the SD Co-Benefits of Climate Change Mitigation Actions ✓ The Real Value of Robust Climate Action	Some tools incorporate quantification of mitigation actions and can accommodate quantified co-benefits.	✓ IASAP ✓ SIA ✓ SAFA	The tools suggest ways to quantify impacts by using quantitative indicators, by giving different weights to different criteria and by relying on quantification from similar projects and data from literature as proxies
Monetization: Monetization of SD impacts is a key element of a framework to incentivize private-sector involvement and leverage additional finance for mitigation activities	✓ Valuing the SD Co-Benefits of Climate Change Mitigation Actions ✓ The Real Value of Robust Climate Action	The Valuing the SD Co-Benefits of Climate Change Mitigation Actions tool and The Real Value of Robust Climate Action tool are both explicitly and solely focused on monetization. Monetization does not feature prominently, if at all, in the other tools.	✓ IASAP ✓ SIA	The tools collect information on the project costs and needed financial implications. But the tools do not provide direct guidance how to monetize SD impacts.
Monitoring & reporting: The need for robust MRV systems is emphasized by the private sector and support agencies	✓ NAMA SD Evaluation Tool	The NAMA SD Evaluation tool with its ex-post focus provides a strong structure for this element, but with little guidance.	✓ SAFA ✓ LCA	The tools provide guidelines for setting up internal and external monitoring and reporting systems
Independent review/ Verification: The independent review of SD impacts is broadly acknowledged as necessary for a credible and robust approach to ensure that expected SD impacts are achieved	✓ The Real Value of Robust Climate Action	Because it is rooted in the GS certification process, the Real Value of Robust Climate Action tool provides the most robust independent review. While stakeholder verification is implicitly or explicitly incorporated into other tools, third-party verification is seldom included.	✓ Pressure Policy Matrix (PPM)	This tool was originally designed to help governments to evaluate the implementation of their SD strategies and policies. It was developed to guide ex-post and mid-term reviews by third-parties.
Certification: Certification of SD impacts can add value and help raise additional finance for mitigation actions	✓ The Real Value of Robust Climate Action ✓ Gold Standard	Again, its rooting in GS certification makes Real Value of Robust Climate Action tool the best example of certification. At the same time, though, the certification process for GS can be complex and labor-intensive, which can be a challenge for NAMA-implementing countries.	✓ IASAP ✓ SAFA	These tools focus on measurable impacts, but do not focus on certification per se. There are SD product certifications and standards such as those focused on the sustainable production and processing of commodities.

As can be seen in Table 8 above, there are some areas in which the reviewed climate change and SD tools are generally aligned with the needs and expectation of stakeholders, while in other areas this alignment is weak or non-existent. Thus tools specific to climate change are a useful starting point for developing a NAMA SD assessment framework. Nevertheless, depending on the needs of stakeholders, there may be gaps in existing tools that need to be addressed in the development of a new NAMA SD framework. Generally speaking, there are many good elements and processes to borrow or build on in existing tools. Here are a few of particular relevance:

- Some SD tools include useful guidance to adopt an integrated approach, allowing a continuous assessment from ex-ante to ex-post results.

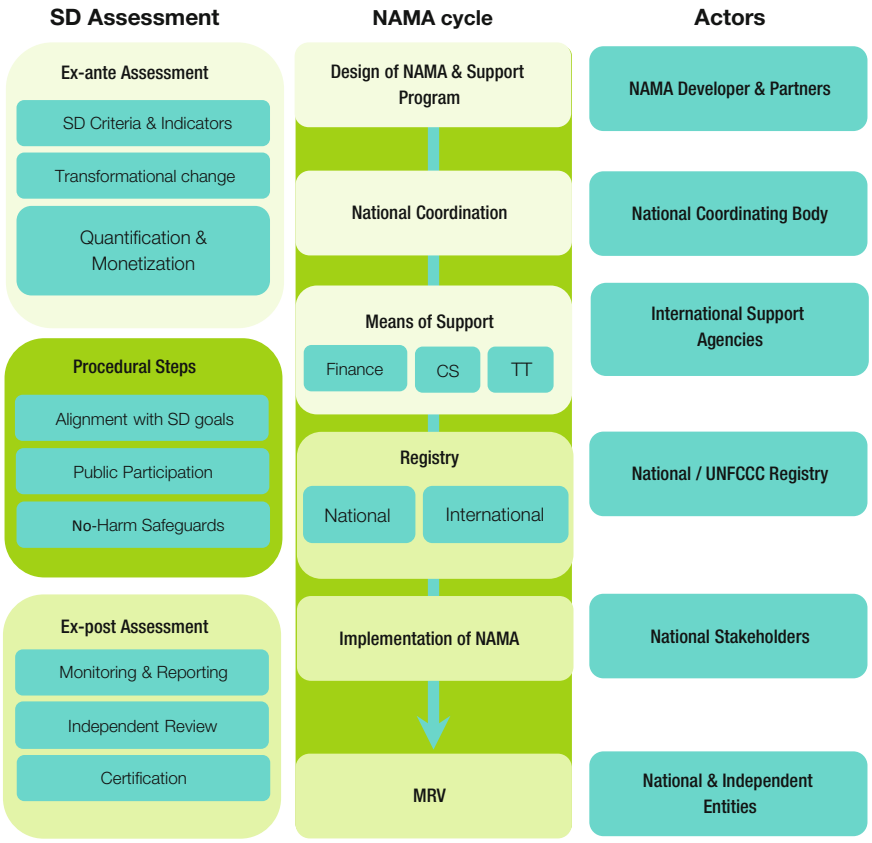
- Stakeholder participation and alignment with SD goals are also well addressed in some climate change and SD tools, and such guidance appears to be of great relevance for a SD NAMA framework.

- For stakeholders seeking to quantify or even monetize SD impacts, it is worth pointing out that some tools focus on such approaches.

4.2 THE NAMA SD FRAMEWORK

Building on the assessment of existing tools and the needs and expectations of NAMA stakeholders, Figure 5 below sets out the key elements of how SD assessment can be integrated into the NAMA cycle.

Figure 5. SD assessment framework in the NAMA cycle



Informed by the NAMA cycle, a distinction is made between ex-ante assessment (forward-looking), ex-post assessment (backward-looking) and procedural steps. Ex-ante assessment includes steps in the NAMA cycle relating to NAMA design, national coordination and ways of increasing support, including submission to the UNFCCC Registry for support to preparation and/or implementation. Ex-post assessment relates to NAMA implementation and the monitoring, reporting and verification (MRV) of SD impacts as part of domestic MRV systems. Procedural steps are relevant throughout the NAMA cycle in guiding the process of carrying out SD assessment in compliance with national development priorities and international standards for public participation and avoiding or mitigating the risks of the negative impacts of the interventions that are supported.

The framework takes an integrated approach to SD assessment by including procedural steps as part of substantive ex-ante and ex-post assessment methods. Substantive elements for SD impact assessment cover indicators for SD impacts and TC processes, quantification, monetization, monitoring, reporting, verification and certification. Procedural elements cover alignment with SD goals, stakeholder involvement and no-harm safeguards; they are equally important in ensuring the quality of SD assessments.

With most existing SD tools, the focus is either on ex-ante assessment, concentrating on the selection of SD criteria and alignment with SD goals, or on ex-post assessment, emphasizing the MRV aspects. Few tools follow an integrated approach that combines ex-ante and ex-post assessment with procedural elements throughout the NAMA cycle. Stakeholders prioritize the elements of SD assessment differently as identified in the comparison of stakeholder perspectives, and there is often no agreement on including all the elements in one tool.

4.2.1 Objectives of the framework

The framework is a state-of-the-art resource for SD impact assessment relevant to NAMAs. At a later stage the framework may be developed into a harmonized approach to SD impact assessment integrated with GHG accounting and reporting (WRI, 2014).

The objectives of the framework are to: 1) assist NAMA practitioners to assess SD impacts in a non-prescriptive, transparent, consistent, credible, stakeholder-based and easy-to-use way; 2) guide users to develop NAMA SD tools appropriate to national circumstances and particular stakeholder or sector-specific needs; 3) help policy-makers and decision-makers manage mitigation actions in support of development priorities in a sustainable way; and 4) enable international transparency and consistency in SD impact assessment across NAMA implementation.

Using an integrated approach, the framework aspires to constitute a quality assurance system for assessing the contribution of NAMAs to SD. Procedural elements contribute to good governance, prioritising national development goals and mitigating the potential negative impacts, while the combination of ex-ante and ex-post assessment enables a comprehensive approach across the NAMA cycle. Each element can be applied in its own right, or else multiple elements can be combined depending on the stage of the NAMA cycle in which the SD assessment is being carried out.

This Version 1 of the NAMA SD Framework is not intended to be the final version but represents the initial proposal for a common approach to the SD impact assessment of NAMAs based on the best available information on the date of publication. As part of the process of continuous learning through the piloting of specific NAMA SD tools in different countries and sector applications, the NAMA SD Framework can be further developed and updated over time.

4.2.2 Defining the NAMA intervention and level of activity

NAMAs may consist of packages of interventions that include policies and actions at different levels of planning and decision-making. To assess the SD impacts of a NAMA, the developer needs to define and describe the policy or action and decide whether to assess a single intervention or a package of related policies and actions. General types of policies and actions include laws, directives, decrees, regulations and standards, taxes, charges, subsidies and incentives, information and learning instruments, voluntary agreements, the implementation of new technologies, processes or practices, public- or private-sector financing and investment, and voluntary agreements. Guidance on whether to assess an individual intervention or a package of policies and actions is provided by the World Resources Institute, which advocates two-steps: 1) identify and describe the type and degree of interaction between policies and actions; and 2) apply criteria to determine whether or not to assess a single intervention or a package of policies and actions (WRI, 2014). The effects of policies and actions are determined based on the terminology of the logical framework causal chain in defining the inputs, activities, outcomes and impacts of interventions (both GHG and non-GHG impacts). The boundary for the assessment of outcomes and impacts is determined by a mixture of the likelihood and magnitude of the identified effects, the unlikely and minor effects being excluded from assessment.

Activities to implement NAMAs can take place at different levels of planning and decision-making. A variety of standards and frameworks exist for the assessment of GHG and SD impacts at the national, organisational/facility, project/program, and product and technology levels, as shown in Table 9.

Table 9. Activity levels for assessment of GHG and SD impacts

Activity level	Assessment of GHG impacts	Assessment of SD impacts
Global		Sustainable Development Goals (SDGs)
National and sub-national	WRI GHG Protocol: 1) Policy and Action Standard 2) Mitigation Goal Standard	NAMA SD Framework and Tool(s)
Organization and facility	Carbon Disclosure Standards Board: Climate Change Reporting Framework ISO 14064-1 & ISO 14064-3 ISO 14069	Global Reporting Initiative: Sustainability Reporting Guidelines
Project/program	ISO 14064-2 & ISO 14064-3 CDM methodologies	CDM SD tool
Product	ISO TS 14067 & ISO 14064-3	
Technology	ISO 14034 (TC207/SC4)	

Source: Inspired by ISO/TC207/SC7 Strategic Plan for Mitigation and Adaptation (ISO, 2015)

Standards and frameworks for assessing the GHG impacts of interventions do not include a consideration of broader SD impacts, and as yet there are no standards or well-developed tools for SD impact assessments of mitigation actions at the national and sub-national levels. The NAMA SD Framework focuses on the national and sub-national levels while seeking harmonization across activity levels. The framework directly builds on the CDM SD tool at the project/programme level and aligns SD impact assessment with SDGs at the global level and with development priorities at the national and sector levels. Inter-linkages between activity levels and cross-sectoral synergies of NAMAs to maximize SD impacts and identify the risks of trade-offs between different policies and actions are described specifically for each element in the framework, including links to existing tools and references.

4.3 PRINCIPLES FOR APPLICATION OF THE FRAMEWORK

To meet the diversity of needs and expectations without favouring one stakeholder perspective over another, the development of specific NAMA SD tools can be guided by the following principles:

- *Non-prescriptive* – focus on what to do, not how to do it, e.g. definitions of what is sustainable vs. unsustainable are nationally determined
- *Transparent* – all methods of assessment, whether qualitative, quantitative or monetary, should be publicly available for review at any stage
- *Consistent* – indicator-based to deliver comparable and structured information about SD benefits and negative impacts for all NAMAs across all sectors
- *Credible* – independent reviews should ensure that the methods are valid and the results are reliable
- *Stakeholder participation* – is a right and facilitates good climate governance
- *Easy to use* – the framework should not require much extra effort than is currently practiced for the M&E of development outcomes unless required for particular needs regarding SD

In following these principles, the Framework can provide guidance for the further development of tools and methods for NAMA SD assessments specific to stakeholder needs in countries or of a general standard for NAMA practitioners across countries and sectors.

4.4 RESOURCES TO DEVELOP AND APPLY THE NAMA SD FRAMEWORK

The NAMA SD Framework is presented below in Figure 6. For a comprehensive SD impact assessment of NAMAs, we suggest that users cover all the elements shown in Figure 6. Each element can add value in its own right, and any number of elements can be selected and combined as desired by NAMA stakeholders, depending on national context, NAMA characteristics, financial support requirements and wider stakeholder needs.

Figure 6. The NAMA SD Framework

Steps	Element	Description
A: Ex-Ante Assessment	1. SD criteria & indicators	Identify and describe SD impacts - using the CDM SD taxonomy with one new dimension
	2. Transformational change	Indicators of the processes of change for a paradigm shift to low carbon and sustainable development
	3. Quantification & Monetization	Units of measurement to track SD impacts towards SD goals are identified and methods to estimate their monetary value are applied
B: Procedural steps	4. Alignment with SD goals	SD impact analysis and contribution to SD goals at global, national, and other relevant levels
	5. Stakeholder Participation	Guidelines for stakeholder involvement throughout NAMA design
	6. No-Harm Safeguards	Compliance with no-harm safeguards to avoid or mitigate negative impacts
C. Ex-post Assessment	7. Monitoring & Reporting	Develop a monitoring plan; How are indicators monitored, by whom, how often? Describe quality assurance procedures. Report the monitoring data to relevant stakeholders at regular intervals.
	8. Verification	Independent review of methods and data shall be provided when needed to ensure SD impacts are credible and transparent
	9. Certification	Public, private or civil society players may want to define standards for certification of units of GHG reductions with SD impacts

The above framework is a menu of elements for SD assessment of NAMAs that can inform the development of specific NAMA SD tools. Each of the elements represents a step towards a comprehensive impact assessment of NAMAs. Acknowledging the commonalities and differences in stakeholders' perspectives, it is not possible at this stage to propose a 'one size fits all' framework that includes all the elements. Specific to the needs of a particular country, donor or NAMA developer, it may be relevant to start with an ex-ante, qualitative assessment and leave out the quantification and monetization of SD impacts to rather focus on alignment with SD goals, the involvement of key stakeholders and the introduction of safeguard systems to avoid the risks of negative impacts.

The next section describes the rationale for each element in the framework in simple terms, summarizing relevant experiences and identifying the gaps for which new methods and tools are needed. In order to assist users in the design of a NAMA SD tool that is relevant for a particular case, references to other sources and tools are included.

Across all the elements, there is an opportunity to develop the framework into an consistent approach for SD impact assessment in alignment with existing standards for GHG impact assessment (WRI, 2014), including a manual with coherent and detailed guidance for application to policies and actions.

4.4.1 Step A: Ex-ante Assessment

Ex-ante assessment is the process of identifying the expected future SD impacts of a NAMA policy or action. The assessment is typically carried out before policy implementation to inform the design of the action programme.

4.4.1.1 Element 1: SD criteria and indicators

This element shall identify and describe the expected SD impacts of the NAMA using a taxonomy of the dimensions, criteria and indicators for SD.

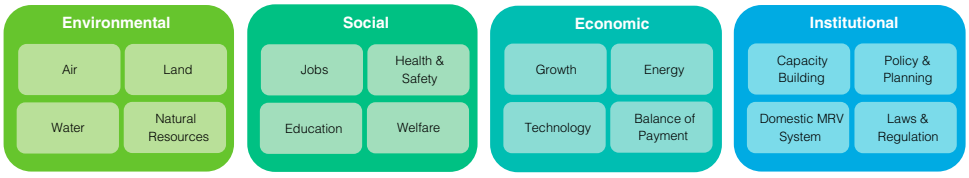
Rationale

To identify SD criteria and indicators for the assessment of NAMA impacts, we build on the CDM Executive Board SD tool to harmonize SD impact assessment across mitigation mechanisms. The CDM SD tool was requested by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol in 2011 in order to assist the Executive Board and CDM project developers to demonstrate how mitigation actions assist developing countries in achieving SD. As such it represents the only internationally agreed tool under the UNFCCC and has recently been evaluated as meeting its objective, while maintaining the prerogative of the Parties to define their own national SD priorities (UNFCCC, 2014).

Guidance for development and application

The CDM SD tool defines three dimensions of SD: environmental, social and economic, plus twelve criteria and seventy indicators for the assessment of SD co-benefits. For SD assessment of NAMAs, the tool is expanded with a fourth dimension: institutional impacts. This was identified in the stakeholder interviews in terms of a need to focus on governance issues. When scaling up mitigation actions from the CDM at project/programme level to NAMAs at sector, sub-sector or national level, the institutional aspects of the actions become increasingly important as an independent criterion. In the review of 106 NAMA proposals, examples of indicators for institutional impacts were identified and categorised into the following four criteria: capacity-building, enhanced legal and regulatory frameworks, domestic MRV systems, and policy and planning. Figure 7 illustrates the dimensions and criteria for SD impact assessment of NAMAs.

Figure 7: NAMA Sustainable Development Taxonomy



- **Air**
  - SOx NOx,GHG
  - Odor, Dust, SPM, Fly ash
  - Noise
- **Land**
  - Compost
  - Manure nutrient and other fertilizer
  - Soil erosion, Salinization, Acidification
  - Minimum tillage
  - End of life pollution
  - Change access/lost access to land
  - Other
- **Water**
  - Wastewater
  - Leaks & diesel dumping
  - Drinking water quality
  - Water extraction rate
  - Conservation
  - Supply water access
  - Ecological state
  - Purification
  - Other
- **Natural Resources**
  - Minerals
  - Species diversity
  - Plant life
  - Land cover change
  - Other

- **Jobs**
  - Long term jobs
  - Short term jobs
  - Sources of income
  - Other
- **Health and Safety**
  - Accidents
  - Crime
  - Diseases
  - Number of hospital visits
  - Sanitation
  - Food safety
  - Indoor air pollution
  - No child labour
  - Other
- **Education**
  - Green development related training
  - Educational services for different groups
  - Project related knowledge circulation
  - Other
- **Welfare**
  - Traffic congestion
  - Commuting times
  - Income/asset distribution
  - Women empowerment
  - Municipal revenue
  - Rural upliftment
  - Energy security
  - Other

- **Growth**
  - Investment
  - Industrial/commercial activities
  - Economic growth/higher income
  - Quality of life
  - Increased tax base
  - Infrastructure
  - Production cost
  - Productivity
  - Other
- **Energy**
  - Coverage/availability of supply
  - Access
  - Reliability, affordability
  - Other
- **Technology**
  - Imported technology
  - Local technology
  - Adaptation and viability in local area
  - Other
- **Balance of payments**
  - Dependency on foreign sources of energy
  - Amount of energy produced from clean renewable sources
  - Decrease in risk of political conflicts
  - Economic savings for the government
  - Reduction in energy subsidies
  - Other

- **Capacity Building**
  - Land titling processes
  - Mapping of natural resources and renewable energy potential
  - Development of competitive procedures
  - Workshops and trainings
  - A technical help desk for project developers and other stakeholders
  - Other
- **Policy & Planning**
  - Policy Framework for Sustainable, Low-carbon
  - Urban Transport
  - Comprehensive Urban Low carbon Mobility
  - Plans
  - Other
- **Domestic MRV System**
  - Sub-national reference levels and MRV systems
  - Platform for the Generation and Trading of
  - Forest Carbon Credits
  - Other
- **Laws & Regulation**
  - Tariff reform
  - Compliance with laws and regulation on
  - Promoting and regulating production, sale and use of biofuels and biomass
  - Decrees for tax benefits for renewable energy projects
  - Conditions for competitive process for incorporation of new plants
  - Other

The NAMA SD taxonomy has four dimensions: environmental, social, economic and institutional, each with four criteria, thus totalling sixteen criteria. Each criterion is described with a set of indicators, with an option to add an indicator under 'other' if a particular aspect of SD is not covered by the taxonomy.

The NAMA developer can use the SD taxonomy to identify how the NAMA contributes to SD. For each criterion, the question is whether the NAMA makes a contribution to this aspect of SD. The choice of answer is 'Yes' or 'No'. If the answer is 'No', the next criterion is assessed. If the answer is 'Yes', the user is asked to describe the expected impacts of the NAMA intervention. A qualitative score can be given to each criteria using a rating scale from -2 to +2 indicating whether the impact is expected to be 'very positive' or 'very negative'. Negative impacts are scored from -1 to -2, 0 is neutral and positive impacts are scored from +1 to +2. Positive and negative impacts are aggregated separately, as negative scores for one criterion cannot simply be subtracted from positive scores for another criterion. The explanation for the score is given for each criterion in the description of the expected impacts based on the relevant indicators. The total positive score and the total negative score enable a simple, normative assessment to be made of the significance of the expected SD impacts of the NAMA. See the Annex for a template with which to qualitatively assess and score NAMA SD impacts.

Useful tools and references

CDM SD Tool: The CDM SD tool highlights the SD co-benefits of CDM projects and programs of activities in a structured, consistent and comparable manner. The tool is applicable to all project types and enables information on SD co-benefits to be aggregated across projects and countries. The tool and the guidance to use it are available on the UNFCCC webpage:

www.cdm.unfccc.int/Reference/tools/index.html

4.4.1.2 Element 2: Transformational change

This element shall develop methods to assess the potential and impacts of a NAMA to contribute to TC based on indicators of the processes of change for a paradigm shift to low carbon and SD.

Rationale

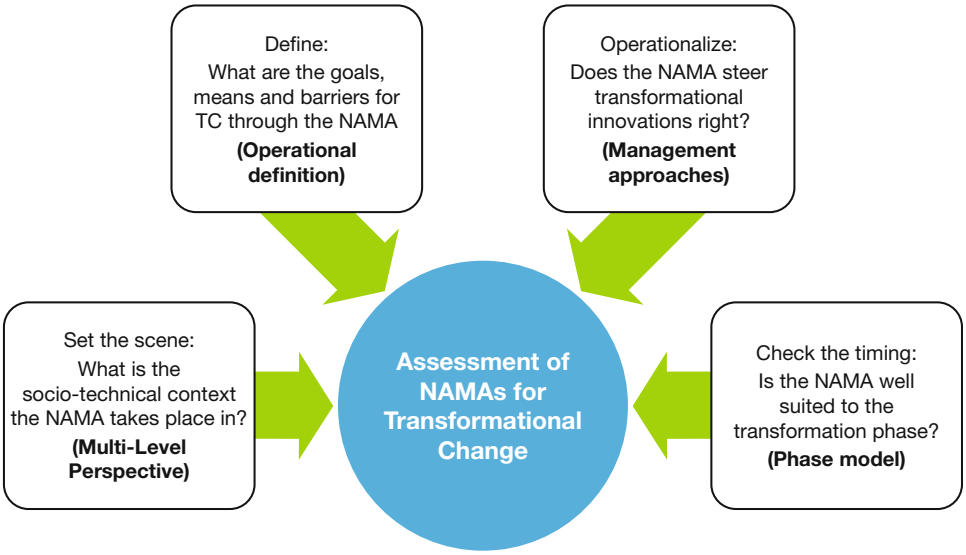
One of the key characteristics of NAMAs is to contribute to TC in a specific sector and for the overall socio-economic pathway of the country concerned. This is an important requirement, as it requires moving away from a project-based approach to more strategic activities that can ignite a shift towards a green and inclusive society. This means that NAMAs should be seen as a key opportunity for countries to move to a more sustainable pathway, and thus NAMAs can provide leverage for transformation.

Guidance for development and application

A methodological framework for assessment of the TC potential and impacts of NAMA interventions is under development in an ongoing research project by the NAMA Partnership Working Group on Sustainable Development & the International Partnership on Mitigation and MRV (Mersmann et al., 2014b). Building on the research project concept paper 'From

Theory to Practice: Understanding TC in NAMAs', five case studies have been conducted on how TC for low carbon and SD has happened or is planned in a particular socio-technical system (Olsen and Fenhann, 2015). Indicators and key factors in success are identified based on the case studies and are reflected in the taxonomy for the assessment of TC potential in NAMAs. The analytical framework for analysis of the case studies is informed by theories of sustainable transitions, as shown in Figure 8 below.

Figure 8. Analytical framework for assessment of transformational change



The TC taxonomy for the assessment of NAMAs is structured around a theory-based analytical framework and complements the NAMA SD taxonomy by focusing on the processes of change, whereas the SD taxonomy focuses on the goals of change. Both aspects are mutually conditional; only if goals are sustainable and the process is transformational will the development pathway become genuinely sustainable. Further guidance on the assessment of NAMAs, the TC potential will be available in forthcoming publications of the research project.

Useful tools and references

'Understanding TC in NAMAs' (Mersmann et al., 2014b). This concept paper provides an operational definition of what TC means in the context of NAMAs and reviews system theories of sustainability transitions to inform empirical studies of TC for low carbon development.

'Shifting Paradigms: Unpacking Transformation for Climate Action' (Mersmann et al., 2014c). This guidebook defines what transformational means and suggests tools and approaches to design and select policies and actions for TC based on a review of sustainability transition theories.

4.4.1.3 Element 3: Quantification and monetization

This element shall provide guidance on units of measurement to quantify and track SD impacts towards SD goals and identify methods of monetizing the value of SD benefits and costs.

Rationale

The need for methods and data to quantify and monetize the value of SD benefits is broadly acknowledged. Establishing a value for the social goods and SD benefits and costs associated with mitigation actions means that the willingness to pay for the goods can be identified and additional sources of finance for mitigation can be leveraged from public or private sources.

Guidance for development and application

The UNDP NAMA SD Evaluation Tool developed by South Pole and MDG Carbon provides useful guidance for the quantification of SD outcomes for NAMAs. It is used to evaluate the SD impacts of a NAMA over its lifetime, using a set of SD indicators and tracking the impacts on environmental conservation, economic growth, poverty reduction and public welfare. It is different from the other tools in that it explicitly makes links to the SDGs.

The tool provides a methodological framework for SD co-benefit analysis for NAMAs and can also act as a tracking or MRV system during and after implementation. SD indicators are selected, and for each indicator one or more parameters are identified for measuring the baseline value and deciding on the type of monitoring. Explicitly incorporating these aspects makes the tool useful beyond the ex-ante evaluation of potential SD impacts.

Monetization offers a concrete way to give SD benefits a value. The monetization of SD impacts is a key element of a framework to incentivise private-sector involvement and leverage additional finance for mitigation activities. The Real Value of Robust Climate Action tool aims to capture and monetise the environmental and socio-economic net benefits associated with issued GS projects. Outcomes are monetized based on economic market and non-market valuation techniques and linked through “benefit transfer” techniques to economic studies, where primary valuation has already been carried out. For several SD outcomes such as those in the social and institutional dimensions, monetization was found difficult, and its limitations have been defined. Even with the limitations, however, the exercise of quantification and monetization is essential in assessing SD impacts of NAMAs.

Useful tools and references

NAMA SD Tool (UNDP, 2014). This tool provides useful guidance for the quantification of SD outcomes for NAMAs. It is used to evaluate the SD impacts of a NAMA over its lifetime using a set of SD indicators. Available at *http://www.undp.org/content/undp/en/home/librarypage/environment-energy/mdg-carbon/NAMA-sustainable-development-evaluation-tool/*

Valuing the SD Co-Benefits of Climate Change Mitigation Actions. This tool is focused on the monetization of co-benefits and seeks to identify areas in which there appears to be a willingness to pay for a co-benefit so that this potential co-funding stream can be leveraged. Available at *www.unescap.org/sites/default/files/Paper_Valuing%20co-benefits.pdf*

The Real Value of Robust Climate Action. This tool focuses on those of an action’s co-benefits that can be more readily quantified and monetized, namely biodiversity, balance of

payments improvements, employment, and livelihood and health impacts. The tool can be applied to a range of sectors. Available at *www.goldstandard.org/report-the-real-value-of-robust-climate-action*

4.4.2 Step B: Procedural Steps

Procedural elements are important for the good governance of climate and development decision-making and need to be integrated into both ex-ante and ex-post SD assessment throughout the NAMA cycle.

4.4.2.1 Element 4: Alignment with SD goals

This element shall assist with analysis of how SD impacts of NAMAs contribute to goals for SD at the national and other relevant levels such as the global, sectoral and sub-national levels.

Rationale

SD covers a number of different sectors and linkages between them, and it operates over longer time horizons. Once the NAMA strategies and activities have been identified, they need to be checked if they are aligned with the country's SD goals expressed in their SD strategies. If relevant, NAMA SD impacts can also be assessed against SDGs defined at the global and national levels, sector development priorities and the SD goals of cities or sub-national entities.

Guidance for development and application

Alignment with goals and priorities in SD strategies is important to make sure that NAMAs do not work against national and sectoral development priorities, and, even more importantly, that they contribute to their achievements. SD covers many sectors and priorities, and changes in one sector could lead to trade-offs in the other sectors. Thus, horizontal and sectoral integration in the context of SD is commonly understood as balancing economic, social and environmental interests in policies and actions so that that trade-offs (negative effects) between them are minimized and synergies (win-win opportunities) are maximized. It is therefore critical that the contributions of the NAMAs are specifically outlined in the context of the goals and priorities of multiple sectors. The suggested process moves from national goals to sectoral goals to assess dimensions of NAMAs in the context of these (Fig. 9).

Figure 9. Linkages between national and sectorial SD goals and dimensions in the NAMA.

NAMA Sustainable Development Taxonomy

Useful tools and references

NAMA SD Evaluation Tool (UNDP, 2014). This detailed spreadsheet walks users through a high-level assessment of the SD impacts of proposed NAMAs and is unique in that it provides strong linkages with the proposed SDGs.

Indian Climate Change Policy: Exploring a Co-benefits Approach (Dubash et al. 2013). This tool applies multi-criteria analysis to assess the contributions of specific planned activities in the context of key development priorities.

PPM (Spangenberg et al. 2005). For each NAMA activity, a matrix of cross-sectorial interactions can be developed to allow an assessment of their impacts on SD priorities and goals and then to agree on the shared priorities and goals to which NAMA will contribute.

4.4.2.2 Element 5: Stakeholder participation

This element shall provide guidelines for stakeholder involvement throughout the NAMA cycle, reflecting the fact that public participation is at once a goal, a right in itself and a means of good governance, transparency, integrity and SD.

Rationale

The involvement of key stakeholders such as government agencies, beneficiaries and affected communities is essential to achieving SD outcomes of mitigation policies and actions. Stakeholder participation is important in order to identify relevant priorities and then actions, to specify the preferred means of implementation, and to explore the potential trade-offs and challenges that might occur during implementation. Emphasis differs as to whether public participation is a goal in itself or a means to ensure a better design and more SD impacts of mitigation actions.

Guidance for development and application

The participation process includes ensuring that stakeholders have access to relevant information, that their views and inputs are included in NAMA strategy and project development, and that they are updated on progress with implementation. Participating stakeholders should include groups with relevant insights into the planning and implementation of the NAMAs for SD outcomes, namely business, trade unions, NGOs, science, religious groups, women and youth. It is important to select the relevant stakeholder groups if the NAMAs are to win broad support and to ensure that their views are reflected properly. This can also mean that existing agencies, such as formal multi-stakeholder groups or councils, can be tasked to lead the NAMA participatory process. In terms of levels of participation, they need to cover both local-level (at the project location) and higher-level participation (of government agencies) especially in the early stages of NAMA development and implementation. Furthermore, coordination among local, sub-national and national stakeholders and agencies is important, especially for large-scale initiatives, to make sure that responsibilities and inputs from different levels of government are effectively coordinated.

Finally, communication and awareness-raising is necessary, as many stakeholder groups may not be aware of the focus of the planned NAMA. It is also important that they receive relevant information about the process, expected impacts and other relevant issues so that they have the necessary information to participate. However, the purpose of this step is more broadly to ensure communication for those sections of the public that are not directly involved in the consultation.

Useful tools and references

Development Impact Assessment (DIA) Visualization Tool. This tool sets the highest standard in terms of stakeholder participation. Not only do stakeholders drive the assessment of co-benefits, they also are expected to participate in and help drive the prioritization process (Cameron et al. (2014).

The Stakeholder Engagement Standard provides a detailed overview of the key stages of the engagement process, including stakeholders' selection, ways of engagement and how to work with the outcomes of the process (AccountAbility, 2011).

4.4.2.3 Element 6: No-Harm safeguards

This element identifies No-Harm safeguards for compliance with international principles of human rights, good labor practice, environmental protection, anti-corruption and land rights to avoid or mitigate the risks of the negative impacts of supported NAMAs

Rationale

To ensure that no harm is done and to avoid potentially negative impacts of mitigation actions, safeguards are needed to protect communities and affected stakeholders. Civil-society perspectives highlight the need for global best practice standards and guidelines for public participation. While there is a consensus on the importance of stakeholder input, the issue of global standards for safeguards is controversial. However, there are a number of practical examples of effective safeguard regimes of relevance to NAMAs.

Guidance for development and application

The CDM Gold Standard provides a relevant example for developing NAMA safeguards. The safeguard system consists of GS Principles, each with specific criteria. The project assesses the risk of potential harmful impacts against a series of safeguarding principles on human rights, labour standards, environmental protection and anti-corruption measures. There is a list of eleven principles to be considered in conducting a 'Do No Harm' Assessment under the Gold Standard's Sustainability Assessment. The safeguard approach is complemented by a detailed SD impact assessment, as well as a sustainability monitoring plan (CDM GS 2008, 2014).

REDD+ safeguards also provide helpful guidance in developing No-Harm safeguards. The UN-REDD Programme brief (2014) outlines the following steps:

1. Determine objectives: outline the specific goals of the safeguards approach

2. Identify existing policies, laws and regulations (PLRs) with relevant safeguard implications, for example, existing laws on the rights of indigenous peoples

3. Establish a safeguard information system (SIS): all such systems are likely to include the following components:
    - Indicators: these help determine, in this case, whether a particular policy, law or regulation is being effectively implemented. The indicators provide the parameters to determine what information needs to be collected.
    - Methodologies for the collection of information: these outline the types of information to be collected for each indicator.

In addition to understanding NAMA-specific and national impacts, it is also important to consider broader implications and potential trans-boundary impacts.

Useful tools and references

The Gold Standard Principles (2014) provide a helpful example for developing NAMA safeguards. There is a list of eleven principles to be considered in conducting a 'Do No Harm' Assessment under the Gold Standard's Sustainability Assessment. Available at: *www.goldstandard.org/wp-content/uploads/2013/08/The-Gold-Standard-Principles-FINAL-270513.pdf*

Climate, Community & Biodiversity Alliance: Voluntary CCB Standards, including seventeen criteria for avoiding the negative impacts of mitigation activities. Available at: *www.climate-standards.org/*

ADB Safeguard Policy Statement (2009). This policy aims to ensure that ADB funds go to initiatives that 'do no harm' and contains a list of project types that should not be funded. Available at: *www.adb.org/site/safeguards/policy-statement*

IFC (2012): IFC's Environmental and Social Sustainability Policy. Central to IFC are its efforts to carry out investment and advisory activities with the intent to "do no harm" to people and the environment and to enhance the sustainability of the private sector. Available at: *www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/environmental+and+social+sustainability+policy*

The World Bank (2010): Safeguards and Sustainability Policies in a Changing World. An Independent Evaluation of World Bank Group Experience, Washington, D.C.: The World Bank. This report outlines the safeguards and sustainability policies that have helped to avoid or mitigate large-scale social and environmental risks in projects financed by the WBG during the past decade. Available at http://siteresources.worldbank.org/EXTSAFANDSUS/Resources/Safeguards_eval.pdf

4.4.3 Step C: Ex-post Assessment

Ex-post assessment is the process of monitoring and documenting the historical SD impacts of a NAMA policy or action. The assessment is typically carried out during or after implementation of the policy or action support programme.

4.4.3.1 Element 7: Monitoring and reporting

This element shall provide guidance in developing a monitoring plan for monitoring and reporting indicators during NAMA implementation – by whom, how often, quality assurance methods, and format for reporting.

Rationale

In strategy development in general, the importance of measuring the impacts and contributions of specific activities has gained more attention in recent years. This includes defining specific indicators to monitor progress with NAMA activities in order to assess their contributions to the goals of the strategy by ensuring their regular tracking and then revising

and modifying the implementation based on the feedback gathered through the monitoring. To operationalize monitoring and reporting, developing a set of indicators needs to be a core part of NAMA activities. In the context of NAMAs, it is also important to focus on indicators that cover not only economic contributions, but also social and environmental impacts and benefits.

Guidance for development and application

Before looking at specific indicators, it is important to assess what are the key areas of the NAMAs that it would be important to measure. Areas identified in the previous steps, such as measuring the transformational aspects, can be included in the indicator system.

Once the indicators have been selected, it is important to identify their measurement details, such as definitions, measurement units, who collects the data and the frequency of data collection. It is important to check for indicators that are already being monitored for other purposes and to include these in the indicator sets. It is also important to narrow the selection of the relevant indicators instead of using a very large set of indicators. Usually a list of up to ten indicators is manageable.

Table 10. An example of how monitoring efforts are documented

		Baseline			NAMA Intervention				
Indicator	Unit of measurement	Base year	Baseline value	Year 1	How	Frequency	By whom	QA/QC producers	NAMA intervention goal
				Year 2					

Finally, in order to make sure that the monitoring occurs regularly, it is important to design protocols that outline data collection procedures or data access if the monitoring is to be carried out by other agencies. It is also critical to work with the data and create regular reports to present trends within them. This could take the form either of a yearly indicator report or smaller issue-based reports covering indicators on specific issues.

Useful tools and references

UNDP NAMA SD tool. This detailed spreadsheet walks users through a high-level assessment of the SD impacts of proposed NAMAs and includes specific monitoring parameters. Source: *www.undp.org/content/undp/en/home/librarypage/environment-energy/mdg-carbon/NAMA-sustainable-development-evaluation-tool.html*

SAFA. This tool provides a guided support in indicator development with a list of suggested indicators and opportunities for users to add or select to fit the focus of the assessed NAMA strategy or activities. Source: *http://www.fao.org/3/a-i4113e.pdf; http://www.fao.org/3/a-i3957e.pdf*

4.4.3.2 Element 8: Verification

This element provides guidance for independent third-party verification of methods and data to ensure that the SD impacts of NAMAs are transparent and credible.

Rationale

Independent review and verification of SD impacts is broadly acknowledged as necessary for a credible and robust approach to ensure that the expected SD impacts of NAMAs are achieved. Verification helps to ensure that projects have real environmental benefits and, in doing so, increases the confidence of countries, investors and the public that projects represent new and additional contributions to SD.

Guidance for development and application

The Gold Standard (GS) provides comprehensive information regarding verification. GS verification entails the "periodic independent review and ex post determination by a Designated Operational Entity of monitored reductions in anthropogenic emissions by sources of GHG that have occurred as a result of a registered project activity during the verification period" (Gold Standard, 2008). A key element of the GS project cycle is the GS verification review and project verification. All Project Proponents are required to complete a Sustainability Monitoring Plan to assist in monitoring the impact of project activities on SD and in verifying that the project has contributed to SD.

Sustainable Development Indicators are developed with stakeholder input, monitored and verified for each verification period, as well as during mandatory verification site visits (Gold Standard, 2008). GS instructs that activities should be validated according to the most recent version of the CDM UNFCCC Validation and Verification Manual (VVM). The VVM itself provides useful information regarding the verification approach and methodology, with instructions for the verification of compliance and data.[5] A Verification Report, including a Verification Opinion, is then provided by the verifier.

Useful tools and references

The Gold Standard Requirements (2008). This report outlines key steps in the verification of emission reductions for registered projects. Available at *www.goldstandard.org/wp-content/uploads/2011/09/GVS2_Requirements.pdf*

The CDM Validation and Verification Manual provides detailed steps for verification to assist DOEs in validating CDM projects that are being developed in accordance with GS requirements. Available at *https://cdm.unfccc.int/EB/039/eb39annagan1.pdf*

Pressure Policy Matrix (PPM). This tool was originally designed to help governments evaluate the implementation of their SD strategies and policies. It was developed to guide ex-post and mid-term reviews by third-parties.

5 https://cdm.unfccc.int/EB/039/eb39annagan1.pdf

4.4.3.3 Element 9: Certification

This element shall describe the opportunities for public, private or civil-society organizations to set specific standards for the certification of SD impacts based on common international guidelines

Rationale

Options for NAMA certification are intended to promote the opportunities for public, private or civil-society organizations to set their own standards for SD impact assessments (EAD 2011; EAD 2011). The GS and the Thai domestic Crown Standard are presented as examples of existing certification schemes, that could also be considered for NAMA certification.

Guidance for development and application

To receive the stamp of approval for GS certification, the project developer has to apply the UNDP safeguarding principles to its project and fill out a "Gold Standard Passport" containing indicators for "Do no harm", the "Sustainable Development Matrix", the "Sustainable Monitoring Plan" and "Stakeholder Comments". The gravity of potential risks has to be assessed. The Gold Standard's processes contain checks and balances to ensure project and credit quality control. These include in-house reviews of audit reports, local stakeholder input and the ability of all GS NGO partners to provide feedback on every GS project. GS credits are uniquely numbered and transparently listed in one central registry that allows direct access to project and audit documentation. Once certified by the GS, projects are issued with credits annually against independently audited climate and SD outcomes.

For the Thai Crown Standard, project developers have to complement CDM requirements with relevant information when submitting a project proposal to the Designated National Authority (DNA), which will decide on the project approval and which is served by Thailand's Greenhouse Gas Management Organisation (TGO 2014 a+b). The project proposer's report has to describe the project and the existing environment, as well as include an initial assessment of the environmental impact and the SD potential. The project's proposer has to score 24 indicators in the fields of environment and natural resources, social impact, technology deployment/transfer and economy (TGO 2014b).

Useful tools and references

The GS currently issues two main certification schemes for carbon projects: the first operates in parallel with the UNFCCC's Clean Development Mechanism and Joint Implementation, whilst the second is an independent scheme for verified emission reductions in the international voluntary carbon market (Gold Standard, 2008, 2013, 2014).

The Crown Standard refers to the Thai government's approach to framing an ex-ante assessment of the contribu¬tion of a CDM project to local and national SD and to conduct an initial environmental assessment.

5 Conclusion on how to develop and apply the NAMA SD Framework

This research project has reviewed tools and approaches for SD impact assessment relevant to NAMAs and conducted a study of stakeholder perspectives on the needs for and expectations of a NAMA SD framework. Analysis of how existing tools meet the needs of stakeholders has informed the development of a comprehensive framework of SD criteria, including nine elements to assess the SD impacts of NAMAs. The SD criteria for NAMAs build on the CDM SD Tool as an international definition of SD for mitigation actions and expand the tool with a fourth dimension to focus on institutional issues. The latter were identified by stakeholders as an important new aspect of up-scaled mitigation actions for mainstreaming governance of low carbon development into national development in a sustainable way.

A substantial amount of work is needed for each element in the framework to further develop existing tools and methods for application to NAMAs. Some elements can be developed as areas of research in themselves, such as indicators for MRV of TC in NAMAs and methods of monetizing SD impacts. Other elements, such as stakeholder participation and safeguards, are relevant not only to NAMAs but for coordination across UNFCCC mechanisms (Watch, 2015), such as the CDM, new market mechanisms, REDD+ , domestic Safeguard Information Systems (SIS) and the Green Climate Fund for climate finance to adaptation and mitigation.

The framework nonetheless provides a comprehensive and flexible approach to the further development of NAMA SD tools, which can be done in stages, starting with a simple tool, and adding elements according to the needs of the country, the NAMA developer, donors and other stakeholders. To guide the development of specific NAMA SD tools appropriate to a country or sector focus, global best practice guidance for SD impact assessment of mitigation actions can be developed to harmonize efforts across countries and sectors. The NAMA Partnership Working Group on Sustainable Development (WG-SD) can be a useful platform on which to engage in dialogue with a wide range of NAMA practitioners and to build on the early efforts of countries, as well as of existing tools and approaches. We hope that the NAMA SD Framework with SD criteria as shown in the Annex can inspire the further development of nationally appropriate NAMA SD tools.

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Annex

QUALITATIVE ASSESSMENT OF SD IMPACTS

	SD criteria and indicators	Selection of SD criteria (YES/NO)	Expected impacts of the NAMA intervention	Qualitative scoring: Negative ... Positive	
Environmental	**Air**				
	• SOx • NOx • GHG • Odor • Dust • SPM • Fly ash • Noise				
	Land				
	• Compost, • Manure nutrient and other fertilizer, • Soil erosion, Salinization, Accidification, • Minimum tillage • End of life pollution • Change access/lost access to land • Other				
	Water				
	• Waste water • Leaks from diesel storage facilities and dumping of waste oil during servicing of diesel generators • Drinking water quality • Water extraction rates • Conservation • Supply,water access (per number of people/area) • Ecological state • Purification • Other				
	Natural resources				
	• Minerals • Species diversity • Plant life • Land cover change (area/type) • Other				
Social	**Jobs**				
	• Long-term jobs • Short-term jobs • Sources of income • Other				
	Health and safety				
	• Accidents • Crime • Diseases • Number of hospital visits • Sanitation • Food safety • Indoor air pollution • No child labour • Other				
	Education				
	• Green development related training • Educational services for different groups • Project related knowledge circulation • Other				
	Well-being				
	• Traffic congestion • Commuting times(in min/hours with focus on travel from poorer parts of the city/community • Income/asset distribution • Poversity alleviation, women empowerment • Municipal revenue • Rural upliftment • Energy security improvement in isolated areas (30 communities in total) • Other				
Economical	**Growth**				
	• Investment • Industrial/comercial activities • Economic growth and contribute to higher income as well as •Quality of life • Increased tax base, by formalising SMEs that currently do not pay for electricity • Infrastructure • Production cost • Productivity • Other				
	Energy				
	• Coverage/availability of supply • Access • Reliability, affordability • Other				
	Technology				
	• Imported technology • Local technology • Adaptation and viability in local area • Other				
	Balance of payments				
	• Dependency on foreign sources of energy • Amount of energy produced from clean renewable sources • Decrease in risk of political conflicts • Economic savings for the government • Reduction in energy subsidies				
Institutional	**Capacity building**				
	• Improvements in land titling processes • Mapping of natural resources and renewable energy potential • Development of competitive procedure e.g. for the installation of private solar PV plants • Workshops and trainings • A technical help desk to provide a central entry point for project developers and other stakeholders				
	Enhanced legal and regulatory frameworks				
	• Tariff reform • Improved compliance with laws and regulation on specific areas of environmental and social protection • New laws/mainstreaming of issues and priorities on promoting and regulating the production, sale and use of biofuels and biomass into existing legislation • Decrees for tax benefits for renewable energy projects • Conditions for holding a competitive process for the incorporation of new plants by private companies				
	Domestic MRV system				
	• Sub-national reference levels and MRV systems to include indicators related to adaptation • Platform for the Generation and Trading of Forest Carbon Credits				
	Policy and planning				
	• Policy Framework for Sustainable, Low-carbon Urban Transport • Comprehensive Urban Low carbon Mobility Plans				
			Total score		

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